ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF
THE ILLINOIS STATE MEDICAL SOCIETY

ENTERED IN THE SPRINGFIELD POSTOFFICE AS SECOND-CLASS MATTER.

VOL. IX SPRINGFIELD, ILL., February, 1906 No. 2

ORIGINAL ARTICLES

THE MEDICAL LIBRARY.*

CARL E. BLACK, M.D.

JACKSONVILLE.

Many medical societies, as well as individuals, have small collections of books and journals which they would like to place at the service of the profession if a practical working plan could be devised. The wave of public library building which, through the generosity of Mr. Carnegie, has been sweeping over the country will, in most instances, provide a suitable home. Even with this home, the library is a collection of dusty tomes unused and unknown. To make it "every day useful" is a problem to be solved by the small medical library. Huxley has wisely said that every proposition is ultimately a financial one. So it is with this one. The Morgan County Medical Society has a small library which was established in 1872, and by donation and purchase has grown until it now comprises about three thousand books and bound periodicals. Recently, through the generosity of one of its members, Dr. T. J. Pitner, three hundred and fifty new volumes have been added and others are promised. To devise a plan to give this library life and to bring the current medical literature ready for use to the hands of every physician in this country is the task undertaken by the librarian with the assistance of other members of the society. We believe we can make this a practical, useful library, with the best of literature on its tables and shelves, and with this literature so analyzed and indexed as to be daily accessible in actual practice. To do this requires co-operation. A society can do many things by co-operation which would be impossible for an individual. The first thing necessary was a librarian, in fact; always on hand to be of assistance to the searchers after the facts of knowledge; one who knows the books and journals and how to use them. It is a sad but true fact that few people know how to make practical use of a library. A year has been spent in presenting this matter to the colleagues, with the result that a fund of $75.00 a month,

* Being part of a report made by the Librarian of the Morgan County Medical Society at its Annual Meeting in December, 1905.

for twenty-four months (two years), has been subscribed to support and improve this library, and the work will begin Jan. 1, 1906. This fund is entirely subscribed by the members of the medical society, which has a total of less than fifty members. It is the purpose of those interested in this project to take twenty or more of the leading medical journals and to have these thoroughly analyzed and indexed each week, so that any member of the society desiring information on a given subject can be furnished with all the available references without the necessity of laborious search and ofttimes painful disappointment. If these plans carry out, as they now promise to, it is my intention to place here my index of current medical literature, which will carry us back in some of the journals fifteen years and give the library at once over a hundred thousand references to the most recent medical literature.

Webster defines a library as "a considerable collection of books kept for use and not as merchandise." According to this definition, emphasis is placed on the usefulness more than on any or all other qualities of a library. That there has been a wonderful awakening in the matter of libraries, both private and public, both secular and scientific, is patent to every one. This awakening has not been sudden nor without long preparation. It has been coincident with more extended and thorough education. The library is a part of our educational system and is now generally so accredited. To the practical physician it is much more. The word "library" is so intimately associated with culture, progress and achievement that it is hard to conceive of one without the other. Bacon says: "Libraries are the shrines where all the relics of the ancient saints, full of true virtue and without delusion or imposture, are preserved and reposed."

Who is there who does not mourn the loss of the great Alexandrian Library, with its priceless treasures, and who is there that can say how much of the world's progress was impeded thereby?[1] The great and many sided Virchow has truly said: "All scientific research is really literary." Who can read the history of the life and achievements of Virchow, of Darwin, of Pasteur, of Cohn, of Broca, of Hulings Jackson, of Gross, of Pepper, of Osler, of Davis or of Senn without realizing the truth of Virchow's assertion. They were scientists, they made experiments, they studied their cases, they were practical every-day practitioners of medicine and surgery, with few exceptions, but above all that and more than all that they were students of the literature of their profession. They read the great masters, they followed them, they learned them, and only by their aid were they able to write intelligently, interestingly and profitably. The colleagues we love most and who appeal to us most are those who know the history of their profession best. It is only through the library, through the books and periodicals which form our libraries, that we can know the history of our profession and the signs and progress of our times. Books and periodicals grouped together constitute libraries. Osler says: "It is hard for me to speak of the value of a library in terms which would not seem exaggerated. Books have

1. "Value of a Medical Library to the Community," by David I. Wolfstein, Medical Library and Historical Journal, July, 1905.

been my delight these thirty years and from them I have received incalculable benefits. To study the phenomena of disease without books is to sail the uncharted sea, while to study books without patients is not to go to sea at all. To be of real value there must be a general and continuous use; the books must be made available and their use attractive. What exsuccous attenuating offsprings books would be but for the pabulum furnished through the placental circulation of a library."

There is little doubt but the "love of study" and the "desire for knowledge" is the power which attracts most men into medicine. How, then, are we to foster and cultivate this spirit throughout the medical career? Dr. Spivak has pointed out that "the medical school course is merely preparatory for what is to follow. Real knowledge of the science and art of medicine is postgraduate. Private practice is the first institution, a teacher grim and morose, but of the highest order if one only knows how to take advantage of its chastising lesson. Hospital practice is an institution wherein instruction is more systematized, the observation more certain and the results better noted. * * * Medical societies are valuable means of educating, fostering and encouraging thought, but they have their drawbacks, the stated meeting that one is unable to attend, the subject that one is obliged to listen to, in which he is not interested, the idle and empty discussions from which there is no escape even in the best societies. There is but one grand institution that stands above all, that has all the virtues and none of the defects of those enumerated, and that is the library. On this shelf is my physiologic laboratory, on the other my biologic institute, here is my anatomic theater, there my lying-in hospital. The records of medical progress, thousands of clinical reports, the teachings and the research of the best medical minds of all times and all places will be found in the medical library and there available to every student."

Let us consider for a moment the relation of the medical library to the community in which we live. This relation, of course, is entirely enveloped in the medical man himself. The members of the community expect when they call on the doctor for services that they will receive a correct diagnosis of the case, and that the case will receive the most approved treatment known to the medical profession. Thus we see the responsibility which confronts the doctor on assuming charge of any one sick or suffering. How far do we fall short in our daily practice of furnishing to our patient what he expects? Is he unreasonable in his expectations, in fact, have we not taught him to expect so much, and, if we have taught him to expect these things, and if he has the right to expect them, what shall we say of ourselves when he is disappointed? Have we made every effort available? Have we mastered what the masters have to teach us of the disease we assume to treat? Are we able to say that our diagnosis is as correct and our treatment as appropriate as the great teachers available to us in our literature can teach us to make them? Or are we shifting along with a smattering of knowledge which is continually leading us astray and filling the cemeteries with monuments which silently, but truly, commemorate our lack

of easily available knowledge? The people know something of the medical schools and their facilities and of the medical books and their qualities and of the medical journals and their progress. If we have made full use of all of these agencies for completing and perfecting our knowledge of the profession which we practice, we have no just cause to sorrow should we fail to meet the expectations of a patient. Too often it is plain that such effort at securing information has not been made. The community is interested to know whether, as medical men, we are making full use of these various agencies for keeping abreast of the times, which will enable us to bring to the sick child or ailing mother the very best in medical progress. We should not rest satisfied with less. We all know full well that the best is none too good.

The practical question which confronts all of us, and especially those who have become busy in the actual work of every-day practice, is how to find the necessary time to keep abreast of the times. How do the new things in diagnosis and treatment get before the members of the profession? Medical progress begins with the experiments and observations and deductions of individuals. These experiments and observations, with their practical suggestions, are usually first presented to some medical society. They next appear in the transactions of such society and in the medical journals. Here they are discussed by the medical profession at large, and, if they are worthy, they live and shortly find their way into our medical books. He who depends on medical books will always be a little behind the one who depends on the current medical literature. He may be safer from trying unapproved theories, but will miss the initial inspiration of progress and will be delayed in accepting many a new plan of treatment or method of diagnosis.

One of the most pressing questions, in my judgment, is how to make the great mass of journal literature coming to our desks available for daily use. Books and journals are the most important instruments in the armamentarium of any physician. All the other instrumentalities which he possesses are insignificant compared with these. If this is true, and I do not believe it can be successfully controverted, then the practical every-day question before us is, How can we get the most use out of our medical literature? Any one who frequently visits the offices of other physicians, as has long been my privilege to do, will be struck with two facts. The average physician subscribes for comparatively few medical journals, and those journals which are taken are scanned when received and then thrown in a corner or piled in a closet in the utmost disorder to be of no further use excepting for fire lighting. A few physicians put them on shelves in sightly bindings, but their substance is still far from accessible. This certainly is not as it should be. These journals contain all that there is of medical progress. When one wishes to write a treatise on a given subject, he searches the current literature for the progress of that subject; therefore, when one wishes to apply to a case the most approved, modern and up-to-date treatment he should have some plan by which he can conveniently, expeditiously and thoroughly consult the most recent and up-to-date current medical literature.

It is hoped that, by the plans inaugurated, this library will become a live, active agency for good to us all in our daily work; that, by this plan of co-operative library work, each one can do more work and do it better. Incidentally, this library, which will start on its new campaign with over 2,500 volumes of good and useful books, is one of the most potent forces for maintaining the permanency and stability of this society. It is real tangible property which is now to assume an earning value. These earnings will be invested in its members who will be glad to return a good interest to be invested for the use of the generations to come. It is to be hoped that each member will contribute to this plan and will avail himself of its help and influence.

ANGIO-ENDOTHELIOMA OF THE MIDDLE EAR.

WITH REPORT OF A CASE.

JOSEPH C. BECK.

CHICAGO, ILL.

Tumors of the middle ear are not very extensively treated of in our text-books. Aural polyps are usually the one growth that one finds described more extensively than any other, with not much said as to the pathology, which is of some interest. The various kinds of tumors that may arise from the middle ear are manifold, as one may find the three embryonic structures here represented. Greenock, in the *Ergeb der Allg. Pathologie*, in 1902, says that Bruehl and Goerke have the proper idea as to the classifications and pathologic diagnosis of tumors of the middle ear, which is briefly as follows: 1. Malignant, sarcoma and carcinoma; 2, non-malignant, mucous polyp, and fibrous polyp. All the other varieties that are mentioned by the various authors are nothing more or less than changes going on in the various component parts of a polyp, so, for instance, a fibro-angioma is an increase in fibrous tissue, and the formation of blood vessels in an inflamed polyp. Goerke, in examining over a thousand cases of ear polypi, has never found in the ear a true myxoma, such as one finds in the nasal cavities. These views are not upheld, however, by all authors. Moos and Steinbrügge have found four cases of true myxoma, and Weidner has seen a true angioma, with new formations of blood vessels in middle ear tumors. The specimen of this case shows distinctly the new formation of endothelial cells and vessels, without the slightest indication of inflammation, except at the point where the tumor was severed at the first operation. I have been able to collect in the literature a large number of tumors arising primarily in the middle ear, which follow in the bibliography. Senn, Warner and Ziegler classify the endotheliomata among the malignant growths.

History of Case.—Mrs. Edna M., aged 23, married. Family history: Father and mother in good health; one sister had her tonsils removed two years ago, followed by excessive hemorrhage, necessitating the ligation of the common carotid. Childhood history: Measles, whooping-

cough, mumps, tonsillitis, from the second to the twelfth years; at this age had tonsils removed, comparatively little bleeding. Diphtheria at fourteen. Acute bronchitis and general neuritis at sixteen. She has never had a discharge from her ears so far as she knows. There is no specific history. At age of nineteen, slight deafness in the left ear, associated with some pain, and a noise distinctly simultaneous with the heart beat, this increasing to a marked degree. At the age of twenty-one consulted Dr. Cartwright, who told the patient she had a tumor in her left ear and referred patient to me on Dec. 3, 1904.

Examination.—Test of hearing: Right ear, for the whisper, watch, forks and whistle, negative. Left ear, whisper, one foot; watch, on contact; negative Rinne, and Weber to the left. Nose and throat negative; right ear normal; left ear, a growth fills out the whole canal and can be easily seen at the outer meatus; has a bluish-gray appearance; is not painful to the touch, and is covered by a thick layer of epithelium. On trying to see where the attachment may be by means of a blunt probe, I found this to be extremely painful, and resulted in free bleeding. Diagnosis, aural polyp of unknown nature. I recommended its removal, to which the patient consented. Using local anesthetic, composed of cocain, menthol and carbolic acid in equal parts, I found it impossible to apply the instruments, owing to the extreme hypersensitiveness of the patient, and therefore recommended her to take a general anesthetic, which she consented to do. This was done two days later, the patient having been properly prepared in the meantine, and further examination made as to the general condition, which was found to be normal in every respect, except some laceration of the perineum and cervix following childbirth. Urinary examination negative.

Operation.—A blunt-pointed probe found the growth to be firmly attached anteriorly and about one inch from the external meatus. Bleeding following this procedure was considerable. I applied rapidly a Blake's polyp snare, and removed a part of the tumor the size of a pea. This was followed by a hemorrhage, such as one finds in opening the jugular or lateral sinus. I wish to make this one point, of interest in connection with the pathology of this growth. I was unable to continue the removal of any more of the tumor, because after repeated packing and trying the various methods of stopping the hemorrhage, it would always start afresh and as violently as at first. Consequently, I packed the ear firmly with the aid of external compression; put patient to bed. The microscopic examination of specimen was made by Professor Evans of the Columbus Laboratories, who found it to be a very vascular tumor with many small cells, possibly sarcoma. However, the statement was made by Dr. Evans that the specimen appeared to be more firm and showed many new vessels. The condition following this operation was as follows: A slight facial paresis was observed on the second day, and on the removal of the compression free oozing again resulted, which required repeated compression. On the fifth day, when we were able to dispense with the compressing bandage, the paresis gradually receded, and we

came to the conclusion that this slight paresis was due to the external compression. However, patient declared that she had had a slight paresis about a year before.

Owing to the results of the microscopic examination, I made a proposition to the patient to do a radical operation, to which she consented, and re-entered the hospital about a month later. During this time, Dr. Henry Wagner of San Francisco was visiting in Chicago, and saw the case with me, concurring in the diagnosis and indication for radical operation. He suggested to me the use of gelatin foods preliminary to this operation, as he said he had success in lessening thereby the tendency to bleeding in similar conditions. I mention this incidentally, to show that it had no effect in the operation that followed.

Jan. 21, 1905, under general anesthesia, the radical operation was performed, with very little difference in the steps from that performed in chronic suppuration of the middle ear. I was very careful not to open into the membranous portion of the external canal until the very last step, owing to the bleeding that I knew would follow this procedure, and would obscure the field of operation. Again, I wish to make the point about the bleeding tendency in this patient, in that from the moment the skin was incised back of the auricle there was constant uncontrollable oozing from every cut and chiseling of the bone. There was no evidence of disease in the mastoid cell; in fact, everything appeared normal until I removed the external wall of the additus and the little bridge before reaching the attic. I then rapidly slit the membranous portion of the canal and exposed the growth, which measured about half an inch in length and one-fourth of an inch in thickness, being attached to the anterior wall of the middle ear. With a dull scoop I delivered the tumor, and Dr. Wagner, who examined it, declared that it was encapsulated. I thoroughly scraped the surface where the tumor was attached, completed the operation, draining in both directions through the canal and retro-auricularly. The patient made an uneventful recovery, but the wound was very slow in healing, as the posterior opening would bleed very frequently on the least provocation, and became extremely sensitive.

Microscopic examination of tumor removed at the second operation. Made by W. A. Evans of Columbus Medical Laboratory.

This is a mass of connective tissue covered by stratified squamous epithelium. The epithelium is negative and can be disregarded. The underlying tissue is composed largely of blood channels. In certain of these there is partial or complete filling of the lumen with proliferated endothelial cells. The wall of the channels, except for the endothelium, shows some inflammation, but otherwise is negative. The endothelium forms plugs in some areas. In others there is little or no hyperplasia. We think it what is called an angiomatous polyp with endothelioma tendencies. We regard it as probably benign.

About three weeks following the operation, I noticed the facial paresis recurring and gradually increasing, so that in May the paralysis was

complete. Since there remained a posterior opening, and there appeared to me to be some remains of the tumor on the inner wall of the middle ear, I decided to close the posterior opening by the usual plastic method, and at the same time remove the tissue spoken of above. These scrapings were again microscopically examined and found to be made up of granulation tissue. The wounds healed, as you can see by examination of the retro-auricular incision, as well as a thorough epidermization of the external auditory canal; however, not a smooth, large canal, it being dissected by bands of adhesions, making an external large cavity and a small channel leading toward the Eustachian orifice. The patient's general condition has markedly improved since this last operation, and the hearing is now increased to whisper at 10 feet; watch, at 6 inches.

The one question that I wish particularly to call attention to in this case is the facial paralysis, which is not improving, and which I must consider as complete. I have decided to a neuroplastic operation on this patient in the very near future and unite the facial nerve with the hypoglossal, as particularly recommended by Rothmann, Nicoll and others, and would be very glad to receive some suggestions and opinions concerning this procedure. I mention the hypoglossal particularly, having decided not to take any chances on doing the operation of uniting the facial with the spinal accessory, since these reports seem to indicate a bad after-effect, such as associated movements between the shoulder and the face.

THE PRESENT STATUS OF OTOLOGY.

J. HOLINGER, M.D.
CHICAGO.

The chapters of otology which have advanced the most in the last two decades, are pathology and diagnosis. For acute and chronic suppurations of the middle ear, they have reached such a degree of development that our therapeutic actions are clearly outlined as to indications and contraindications for and against different forms of conservative treatment or different typical operations. Whoever acts against these well-established rules has to bear the consequences. Whoever operates, for example, upon an acute exacerbation of an old chronic suppuration with cholesteatoma by simply draining the mastoid cells and letting the wound close again, as in acute suppurations, is bound to have recurrence. Whoever chisels open the head of every patient with acute otitis, whose mastoid process is a little tender for a short time, will do damage to his patient, to himself and to the profession.

We were, however, totally at sea as to pathology, diagnosis, prognosis and therapy, in the greater number of cases of deafness without suppuration. The text-books enumerate and subdivide different types of these diseases and give prognosis and treatment for each, but how much it all amounts to is shown by the words of a well-known St. Louis otologist, who said: "Once in a while we have splendid results in those cases, but in others, apparently identical ones, all our endeavors are worthless, the patient, even while we treat him often, becomes more deaf every day." The literature consists mainly of

casuistic, clinical histories without postmortem or pathologic findings without clinical histories. Bezold, fifteen to twenty years ago, gave really far-reaching viewpoints. He was first criticized and finally nearly ignored, as, for example, in the well-known text-book of Politzer. His views were more strongly supported, the more microscopic anatomy and pathology were systematically worked out by Professor Siebenmann. The conclusions which those two authors draw are now generally accepted, because they are based upon large numbers of cases which were observed for long periods, repeatedly examined with tuning forks and finally posted and microscopically investigated in the most conscientious way. Many pathologic findings which were formerly considered very frequent causes of deafness, were revealed as rare and exceptional, and others took their place, which years ago simply could not be recognized on account of incomplete microscopic technic. What is meant by this last word may be illustrated by pointing to a few of the difficulties that had to be surmounted. A controversy was carried on for years as to the position of the membrana tectoria, a large and clumsy part of Corti's organ. It was proved that, in the living, this membrane laid flat on Corti's organ and that all other positions at different angles with this organ are postmortem changes, which set in at once. A temporal bone must be placed in a Müller formol solution at the latest six hours after death, if one wants to be sure that postmortem changes will not disturb the difficult picture of the labyrinth. But you will understand why the pathology of the labyrinth was developed so late and give the men who finally accomplished it so much more credit, if you consider that to open the skull of the corpse and take out the temporal bones requires from one and a half to two hours; that at least a part of the work, namely, the filing open of the semicircular canal, in order to let the fixing solutions enter the labyrinth, must be done by the pathologist himself. It is indispensable that a postmortem be begun two hours after death. Therefore, for many years, Siebenmann looked up the names of all the patients in the Burgerspital to see whether at some time or another they had been treated in his ear clinic. If those who had formerly been treated by him were afflicted with some fatal disease, he instructed the nurse to at once notify him of their death. Then, Sunday or week day, away from his office full of patients, or at night out of the warm bed, he hurried to his laboratory to make the necessary first preparations. After this decalcifying, hardening, fixing, etc., followed, with daily handling of the specimen for six to eight weeks before the specimen could be imbedded, cut, stained and mounted. Finally, a simple air bubble might make the whole work worthless. Neither paid help nor trained assistants were sufficiently reliable. But he succeeded in getting dozens and dozens, even hundreds of faultlessly cut and mounted middle and inner ears, which had all been repeatedly examined with tuning-fork tests. If one considers this vast amount of conscientious work, with thousands of little details, it is really painful to hear and read the superficial criticisms of the conclusions drawn therefrom. As to anatomy and physiology, this

most important fact was discovered, that the bony capsule of the labyrinth is as to its nutrition and function rather a part of the middle ear than of the inner ear. Its diseases must, therefore, be added to those of the middle ear. This discovery cleared up a number of disputable points of pathology and diagnosis.

A comparison of the text-books with this newer pathology show, first, that in acute inflammation of the middle ear, an isolated inflammation of the membrana tympani or acute myringitis hardly exists, but the mucous membrane of the drum cavity and of the mastoid cells is always implicated. Pus may gather in the cells and disappear without ever causing any symptoms. Second, an inflammatory hypertrophy of the mucous membrane, the otitis media hypertrophica, does not occur even after repeated acute inflammations, although the text-books have so much to say about it. One case of enormously hypertrophied mucous membrane in a man, who was deaf all his life, and died as the result of an accident, reported by Wittmack,[1] is, as he admits, extremely rare and not due to an acquired inflammatory process, but a congenital anomaly. Third, dried-up masses of secretion, that some text-books describe as remnants of acute inflammation, do not exist in the middle ear with normal lining. Such masses are due to chronic suppurations with metaplasia of the epithelium, i. e., cholesteatoma. Fourth, adhesions of mallet and incus, either between themselves or with the walls of the middle ear, as results of acute inflammation, are very rare and have little influence on hearing. Acute inflammations of the middle ear have a strong tendency to *restitutio ad integrum,* with the exception of two forms. The first of these two is the one after scarlet fever; the second is the otitis media phthisica, which occurs only in the last stages of consumption, when the patient has no resistance against the disease. A few remarks may be added about chronic suppurations and especially their most frequent pathologic finding, the cholesteatoma. I spoke about this condition before the Chicago Medical Society for the first time ten years ago. One of the gentlemen in his discussion said that cholesteatoma and its complications were rare in this country. In contradiction to this, I may state the fact that within the last three months I operated upon ten ears for cholesteatoma. Three of the cases were complicated with septic thrombosis of the lateral sinus, the jugular bulb and vein. One of them died of meningitis. The literature abounds with similar cases, and still the afore-mentioned text-book of Brühl-Politzer gives only four pages and three out of the 283 pictures to pathology, chemistry, diagnosis, prognosis and treatment of this by far most destructive and fatal of all ear diseases. Other text-books give it even less space. Its practical importance should entitle this disease to a separate chapter, where, besides a careful exposition of the differential diagnosis, the differential indications for conservative treatment and operation will be given. Under the head of chronic suppurations must be added that considerable work was done lately about tuberculosis of the midde ear. Tuberculosis is a more frequent cause of suppuration than was suspected.

1. Z. F. O., vol. xlvii.

A few words must now be said about a disease of the middle ear, that is not due to inflammation, the spongifying of the bony capsule of the labyrinth. It must be added to the diseases of the middle ear, because the capsule is not a part of the sound-perceiving, but of the sound-conducting apparatus. Its pathology was worked out some time ago. It leads to ankylosis of the stirrup in the oval window. A number of authors tried to establish the inflammatory nature of this disease. Two points may be mentioned against this: First, there is no other inflammation of the bones which has similar microscopic pictures for its end product. Second, the beginning of the process is almost always between the eighteenth and twenty-second year, the end of the period of growth. It is very exceptional that a case can be traced back before the seventeenth year, or that the patient surely was normal up to the twenty-third year, and that the disease started later. These exceptions are so rare that they may be taken as supporting the rule. Now, I assert that no inflammation follows such rules, or is limited in its inception to such a narrow period in life. There is an inflammatory ankylosis of the stirrup in old suppurations which has nothing to do with this. I saw, among the great collection of Professor Siebenmann, a few other pathologic changes, which have so far no clinical interest, because they can not be diagnosed. They are mostly from very old people. New-formed membranes of the round window, which close up the niche entirely or partly; furthermore, new formation of connective tissue, the cells of which may become loaded with fat, so that real lipomata of the round window were seen.

The next chapter is the one on pathology of the labyrinth. Professor Dr. Siebenmann and his assistant, Dr. Oppikofer, created the greater part of it, and brought system into what was known before. Two years ago I worked for seven weeks in their laboratories and saw the complexity of their apparatus. Whole rows of microscopes were brought into use. High power, low power, pathologic, normal, thin slides, thick slides, cuts in different planes of the labyrinth had to be studied, drawn, photographed and compared, till finally some tiny little detail could be settled. I shall sketch a few of the main points. All changes are divided into acquired and congenital. The acquired diseases are located in the nervous elements. Exceptions to this rule are large destructions through necrosis and traumatism. The acquired changes, i. e., those of the nervous elements, show all different stages from acute neuritis to extensive degeneration into connective tissue. We find round cell infiltration of the cochlear and vestibular nerve or interstitial neuritis, diminution of axis cylinders and of the gangliar cells in the spiral ganglion and the end branches of the cochlear nerve or atrophy of the nerves. Parenchymatous as well as interstitial changes may be caused by general diseases, like typhoid fever, diphtheria, mumps, measles, scarlet fever, smallpox, whooping cough, pneumonia, erysipelas, sepsis, influenza, rheumatism, diabetes, myxedema, marasmus and cancer, and finally by systemic general poison, like alcohol and nicotin, and by poisons which act mainly on the acoustic nerve, as salicylic acid and quinin. The semicircular canals are usually

intact. We find similar changes as in the cochlear nerve in the main stem of the acoustic nerve. The congenital changes are usually found in deaf-mutes, and are mainly confined to the membranous labyrinth. They consist in folding or plaiting of the stria vascularis, changes of different epithelia, changes of Corti's organ and of the aqueducts, absence of parts or of the whole of the labyrinth and even of the whole pyramid. Different groups and types are formed which will greatly facilitate further studies. All these investigations are extremely interesting. They were impossible up to late years, when first reliable methods to decalcify the bone, without injuring the fine structures within, were discovered. Of course, these works could not but help to have practical consequences. One of them was the complete change in the education of deaf mutes, of whom there are in Chicago alone more than a thousand. It is true that the systematic tuning-fork examinations of Bezold first brought the advance in that line, but pathology not only supported the empirical method, but led to discoveries which opened new roads. One of them was that it showed that real congenital deaf mutes, with very few exceptions, have much better hearing than those with acquired deafness, and after comparatively short training many may participate in oral instructions in the regular public schools.

The diagnosis of different forms of nerve deafness keeps step with pathology. The technic of the examination is not a very simple one, but whoever enters into its spirit can not withhold his admiration for its clear, logical construction. It enabled me to diagnose, for example, the syphilitic character of two cases of deafness with normal drum-head and Eustachian tube. One of them, a doctor, when I took his history, did not tell me a word about syphilis, but he was greatly surprised, when after the tuning-fork examination, I asked him when he had his chancre, and he reluctantly said fifteen years ago, but never had any symptoms since. The other one denied infection entirely, but under the pretext of giving him a tonic I gave K. I. Both improved to a point where they could hear a whisper at a distance of several feet, while before they could not hear a whisper at all and conversation only at three to four feet.

As a rule, however, to make a diagnosis, the history and other points must be duly considered. Experience has taught that whenever hearing is so far gone that a whisper can be heard only at a very short distance or not at all, it is impossible that the middle ear alone is affected. The nervous apparatus also must be involved. Combinations of affections of the middle ear and of the labyrinth are frequent, but how much of deafness is due to the middle ear and how much to the labyrinth is often difficult to decide. Our views of the function of the middle ear are of the greatest importance. Bezold says that the reception of the lowest sounds and their conduction to the labyrinth is the main function of the middle ear apparatus. In a paper on the physiology of the middle ear,[2] I have given the reasons for it. The main points upon which we base our diagnosis are these: If a patient with normal drum-head and normal conditions for

2. Jour. A. M. A., Aug. 6, 1904.

air douche, hears a whisper at 3 to 5 m. instead of 20 m., and if he does not hear the lowest sounding tuning forks close to the ear, but hears all forks well or better than normal, if they are set at any part of the skull nearest to the bone, then we are not mistaken if we locate the disease in the middle ear. The prototype of this form of the middle ear disease is the ankylosis of the stirrup. If, on the other hand, a patient, with normal drum-head and Eustachian tube, who hears whispers only at 3 to 5 m. instead of 20 m., hears all tuning forks, and especially the lowest ones, when, furthermore, the proportion of air conduction to bone conduction is normal, but so that an "a" tuning fork, which to him has stopped sounding by bone conduction, can still be heard through the bone by a normal hearing individual, then we say the middle ear can not be at fault, because the sound does not need to be conducted through the middle ear, but goes just as easy directly to the labyrinth. The fault must lay in the perception, that is, we have a case of nervous deafness. To locate the disease more accurately, we consult the history and if we find that the patient suffers considerably from dizziness, we conclude that a part of the nervous system must be affected, where cochlear nerve and the vestibular nerve from the semicircular canals and ampullæ are united; that is, in the main stem of the acoustic nerve. Furthermore, when the patient does not complain about dizziness, but when we find on examination with the whole series of Bezold's tuning forks that he hears some of them distinctly better, others worse or not at all, we know that the trouble can only be located in the last branches of the acoustic nerve; that is, in the cochlear nerve and in the cochlea. A number of publications from different clinics confirm the reliability of these diagnoses. I often had chances to observe typical cases of one or the other group. If you read a report of Dr. J. E. Sheppard of New York in the *Lancet-Clinic* of Oct. 14, 1905, of a case that he could not positively diagnose, you will easily recognize an acute neuritis of the acoustic nerve.

That therapy has profited largely is beyond a doubt. Who now would think of treating a patient with pneumomassage and pressure probe, and force him to come in a noisy car through the still noiser streets to a downtown office, when an acute neuritis of the acoustic nerve has been diagnosed? How much good will now be accomplished, not only in a therapeutic way, but in prophylaxis, if the full consequences are drawn of the fact that the acoustic nerve is extremely sensitive to noise during all serious general diseases. Many a case of deafness will be avoided if we keep the patient away from noisy street cars, electric bells, slamming doors, hammering radiators, etc.

This little sketch of the present status of otology was compiled from literature and especially from personal experience in the laboratory and clinic of Professor Siebenmann. I have inside information that within a few months an up-to-date text-book will appear, which will contain an elaborate presentation of this newer otology.

103 Randolph Street.

CONGENITAL CLUBFOOT.

DR. JOHN RIDLON AND DR. CHARLES F. EIKENBARY.
CHICAGO.

When the abstract of this paper was written for the Chairman, we contemplated discussing the varieties of congenital deformities of the feet, the anatomy of congenital equino-varus and the theories of causation of these conditions. So much space, however, has been taken up with the statistics of cases and the treatment of the common form of congenital clubfoot, namely, equino-varus, that it has seemed best to omit all anatomic and theoretic discussion and limit ourselves to the clinical facts and a consideration of the various methods of treatment.

STATISTICS OF DR. RIDLON'S CLUBFOOT CASES, BY DR. CHARLES F. EIKENBARY.

The cases here reported are meant to comprise all cases, of which I have been able to find any record, that have come under the observation of Dr. Ridlon during his thirteen years' residence in Chicago. Nearly all of the cases have been operated on in some one of the Chicago hospitals, a few have been operated on in other cities. It is a source of great regret that the hospital records of these cases are, in many instances, incomplete. In some cases the records fail to state whether the deformity was congenital or acquired. All such were rejected and do not appear in this paper. Only those cases known to have been congenital are reported. I am sure that more cases have been operated on than are here reported, and I am equally sure that the number of cured cases is greater than is here reported, since it is only reasonable to suppose that the cured cases would be less likely to report than would the relapsed cases.

SUMMARY.

Number of patients	101
Double	66
Single	35
Total number of club feet	167
Equino-varus	162
Calcaneo-valgus (in 3 patients)	3
Valgus	2

AGE.

Oldest case treated	32 years
Oldest case (not treated)	40 years
Youngest case	10 days

Forty-one patients were under 2 years.
Twenty-nine patients were between 2 and 7 years.
Six patients were between 7 and 14 years.
Six patients were over 14 years.
Age not known, 19 cases.
Boys, 60; girls, 34.
Sex unknown, 7 cases.
Number of cases showing complications, 7.

Complications are as follows: Constricting bands and amputated fingers; knock knees; no patella, congenital flexion deformity of both knees and congenital dislocation of both hips; no patella, congenital flexion, deformity of both knees and both elbows, clubbed hands, adduction of both shoulders, and congenital dislocation of both hips; out-knee, club hands, one toe missing; hydrocephalus; no patella, and congenital recurvation of both knees.

Tenotomy of Achilles was done in at least 62 patients; hand stretching in all. The osteoclast was used in 7 cases. The feet were torn open along line of Phelps' incision in 4 cases. In one case the foot was torn open on a line parallel to inner border of foot.

Fig. 1.—Hand-stretching. Correcting the varus.

RESULTS.

Final results known, 65.

Final results unknown, 18.

No operation, 9.

Still under treatment, 9.

Good results (known), 48.

Fair results, 16.

Bad result, 1.

One case has since had Phelps' operation performed and family doctor reports perfect cure.

At least 10 cases relapsed and had to have secondary operation.

One case relapsed three times, but finally was almost perfectly cured.

At least 7 cases had bad results from previous operations by other surgeons.

One case was cured by daily hand stretching by the mother.

TREATMENT, BY DR. JOHN RIDLON.

Any routine method for the treatment of all cases of clubfoot is a mistake and must occasionally result in relapses and failures. But most of us are so constituted that we must treat all cases by our routine method until some cases do result in relapse or failure, and even then many of us will continue with the old routine, ascribing the relapses and the failures to neglect in the nursing rather than to fault in method. Theoretically, each case should be treated on its merits if we are to ob-

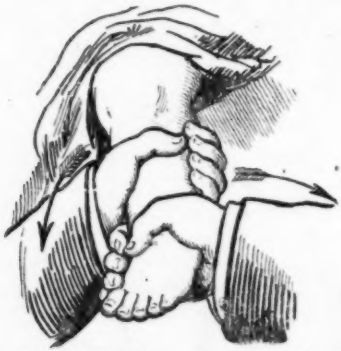

Fig. 2.—Hand-stretching. Correcting the equinus.

tain the best results, and, theoretically, every surgeon should be able to treat a case equally well by any method. But there are men who are afraid to perform even a minor operation, and there are others who very frequently get septic wounds. All such should content themselves with "bloodless surgery." There are others, and their numbers are not a few, who find the scalpel the simplest instrument with which to untie the Gordian knot of childhood and at the same time loosen the purse string of the parent. The laity can not get away from the conviction that the more blood the surgeon spills the greater is his worth in dollars. Some

Fig. 3.—The Thomas wrench.

years ago an eminent New York orthopedist admitted, in a discussion on the treatment of clubfoot, that it often took him from three to four years, at $500 a year, to cure a case with braces. The general surgeon retorted that he preferred to cure the case at a single operation and take all the money the parents had at once. Of course, the orthopedist was wrong in thinking he could cure all cases by braces alone in three or four years, or any period of time, and the surgeon was wrong in thinking he could cure any case by simply operating on it. There are clubfeet that

can be cured by braces, provided the braces are used by men who know how to handle them and there are other clubfeet that can not be so cured. But there are no clubfeet that can be cured by simply operating on them.

Fig. A.—Using the Thomas wrench to correct the varus.

This brings us to defining a cured clubfoot. A cured clubfoot is one that has been straightened to approximately the normal form and has been made to remain permanently in that form without extraneous assist-

Fig. 5.—Twisting the foot with the Thomas wrench

ance. In the straightening of a clubfoot by operation, "bloodless" or "bloody," the operation is simply a preliminary in the treatment of the case, as much a preliminary as scrubbing the foot is a preliminary in a

cutting operation. It is an essential preliminary, but it is still a preliminary. The cure only comes through skillful after-treatment. Every man who has operated on many clubfeet has had some relapses. I am sure he will agree with me that he would not have had these relapses had he held the feet for a sufficiently long time in the position he had them in at the completion of the operation. He, or some one, erred in

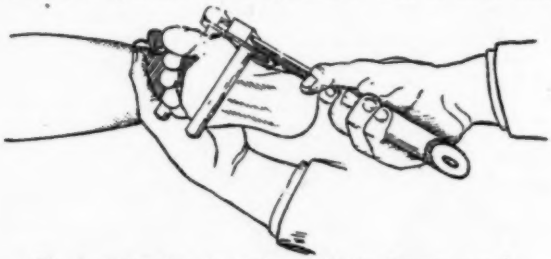

Fig. 6.—Correcting the equinus with the Thomas wrench.

judgment of how long a time was sufficient to warrant against a relapse. No operator will be willing to admit that he failed to correct the deformity by his operation; if, then, relapse occurs he must admit that the fault lay in inefficient after-treatment. There is another factor in the care of a clubfoot that appeals very strongly to the patient, namely, the function of the foot. The patient has a right to demand that the deform-

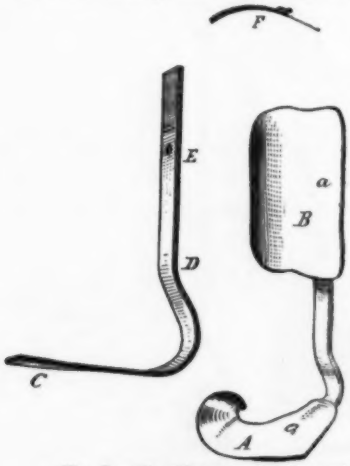

Fig. 7.—The Thomas retention splint.

ity of the foot be corrected, at least approximately; that relapse shall not occur, and that approximately normal function results. It logically follows that the treatment which gives the best functional result is the best treatment, and this necessarily means the exclusion of all mutilating operations, such as excisions of portions of the tarsus.

The methods of treatment to be considered are: 1. Hand stretching

without an anesthetic. 2. "Wrenching." 3. Intermittent stretching by braces. 4. Hand stretching, "modeling," with patent anesthetized. 5. "Wrenching" and forcible correction with the osteoclast. 6. Tenotomies. 7. Open operations. 8. Osteotomies, linear and cuniform. 9. Enucleations of whole bones. 10. Amputations.

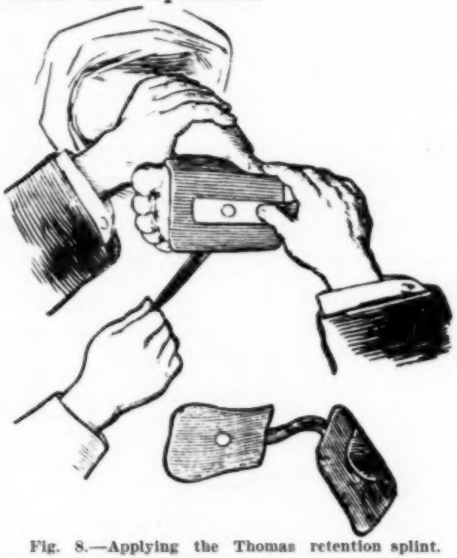

Fig. 8.—Applying the Thomas retention splint.

Hand stretching, without an anesthetic, may be commenced as soon as the child is born. It should be as vigorous as the heart of the doctor and the sensibilities of the parents will permit, and it should be repeated at least once every day. In the intervals some simple removable reten-

Fig. 9.—Applying the Thomas retention splint.

tion brace should be used. Judson uses a steel bar, with transverse flanges, applied to the inner side of the leg and extended foot, held on by webbing straps, to correct the varus. A strip of block tin, well padded and held in place by a roller bandage, may be applied along the outer

side of the leg and extended foot. When the varus has been over corrected, an angular brace may be used, consisting of a metal foot plate, taking the sole of the foot, with a single flange on the inner side of the foot. To this the foot is strapped by webbing, adhesive plaster or a bandage. From the side-flange at the heel a bar or rod extends up to the garter line, with a steel and leather band around the leg. The bar must be made adjustable where it joins the side-flange of the foot plate, or, if a rod is used, it can be bent as the correction of the equinus progresses.

I am accustomed to apply a plaster splint, cut it into two parts before it hardens to make it removable, and renew it every two or three weeks. These methods may be pursued until the case is cured or the patience of the parents or the doctor has been exhausted. In slight and some moderately severe cases the deformity may be corrected by the time the child begins to walk, and a cure may result by the end of the second year. If the deformity has not been corrected by the time the child begins to walk,

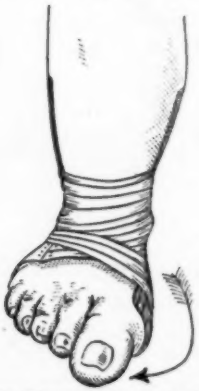

Fig. 10.—The Thomas retention splint applied.

it is my custom to operate, if operation is permitted by the parents, for walking with the feet in the varus position usually exaggerates that deformity and walking with any degree of equinus leads either to a relapse of the varus or to the hyperextension deformity at the knee.

The use of the Thomas wrench, or any of its modifications, gives additional strength for stretching cases past the age of infancy. Thomas used the instrument without an anesthetic to stretch the foot to a condition of flaccidity and then bound the foot fast with adhesive strips in an iron splint. As soon as any resilliancy returned in the stretched tissues, at the end of three or four days, the stretching was repeated until the deformity was over corrected. The best results I have ever seen as to correction and function have been cases treated by this method, but in this country few parents will submit their children to this painful method. Shaffer, of New York, has been the most consistent and persistent advocate of intermittent stretching and continuous retention by braces. In slight deformities in children, and in moderately severe cases

in infants, excellent results can be had by this method, provided the surgeon has unlimited patience and is a natural mechanic. For years I treated all cases by this method; for years I have not used the method in a single case.

Hand stretching, or "modeling," of the foot, the patient being anesthetized, was brought into prominence in this country by Lorenz two and one-half years ago. There was nothing really new in this maneuver to orthopedic surgeons. For years we have stretched by hand, using the edge of the table as a fulcrum, all tissues that could safely be stretched or torn. Fifteen years ago I brought the first Thomas wrench to this country, having previously used a modification of the wrench, and it came into pretty general use among orthopedists as an aid to the hands in correcting resistant cases. Great credit, however, is due to Lorenz for

Fig. 11.—The Grattan osteoclost.

advocating a very heavy plaster splint to be worn in walking for four or more months without change and until the cure is permanent. Previously we had used light plaster splints, changed frequently, and often replaced by braces, and some of the full correction was often lost at the changes of plaster splints and through neglect in the adjustment and care of braces. To-day we use the Koenig wedge-shaped block as more convenient than the edge of the table. We work slowly on a low table where much of the operator's weight can be thrown on the foot, and we do not stop in the correction of the varus until it is corrected, even if the foot is torn open on its inner and under side, as has happened to me in five instances. In some few cases the best result can not be had by this bloodless modeling, because of the inward rotation of the foot at the ankle joint. The front of the foot is more likely to be bent outward at the tarso-metatarsal joint than the whole foot to be turned outward at the ankle joint. In such cases it is, in my opinion, better to do a tenotomy at the inner malleolus in conjunction with the hand stretching. In some very resistant cases, particularly relapsed cases, in adolescents and adults,

I have not been able to get a satisfactory correction of the tarsal deformity by hand alone. In these cases I have gained added force from the Grattan osteoclast.

As to the bloodless correction of the equinus part of the deformity, there seems to be some misunderstanding. Correction of the equinus without tenotomy of the Achilles, except in very slight deformity, should not be attempted. In very young children, a fracture of the tibia and fibula may easily result; and, although this may be no harm, it is not a thing one wishes to happen. In older cases, the tendon may tear away from its attachment to the os calcis and carry with it a shell of bone and this may suffer necrosis, as I have had happen in one instance. Tenotomy, then, should be resorted to in this region. The Grattan osteoclast, which is a most valuable aid in the correction of relapsed and resistant varus in older patients, is not an instrument to be used as the sole means of treatment. In using it I have torn open the foot along the

Fig. 12.—"Hand modeling" a clubfoot over Koenig's wedge-shaped block.

line of Phelps' incision, transverse to the sole of the foot, and once parallel to the inner border of the sole of the foot. If the skin is too short to allow full correction of the deformity it must tear or be cut. In my opinion, it is better that it should tear. In tearing, only those parts are separated that are positively too short, whereas an incision may very easily divide more or less than is necessary. So in the correction of the equinus after tenotomy, in small babies the skin occasionally tears across the back of the ankle. These tears I am accustomed to seal immediately with collodion and cotton, and they heal readily. In some cases the tension on the skin at the inner side of the foot and at the back of the ankle is so great that it is blanched without tearing. The circulation usually returns before harm is done, but in one instance, in a woman 32 years old, who had an extreme deformity, so that the toes pointed inward and backward and the sole looked upward and backward, the superficial layers of the skin sloughed from the heel two-thirds of the way to the toes. It

healed, however, under a balsam of Peru dressing, with perfect correction of the deformity. After this "modeling redressment," the foot is padded to the thickness of half an inch with bandages of sheet wadding, these are firmly compressed with a muslin roller bandage and a heavy plaster-of-paris splint carefully applied from the toes to the knee. This must be at least a quarter of an inch thick at the thinnest part. In some instances the stretch on the blood vessels is so great that the toes are blanched. If the circulation does not return within a short time, a triangular window should be cut in the splint at the front of the ankle or at the back of the heel. The opening in front more readily relieves the tension, but one loses a little of the good position in which the foot has been placed. The splint must be trimmed at the top to permit of right-angled flexion at the knee, and at the bottom the dorsum of the toes must be exposed. On this splint, without change, the patient walks for at least four months.

For seventy-five years tenotomy has been employed in the treatment of clubfoot, and comparatively few cases have escaped this operation.

Fig. 13.—Feet of child, 3 years old, before and after correction by "hand modeling" and tenotomy of Achilles.

While many tenotomies have doubtless been made unnecessarily, and in very many more only a small part of the fruit of the operation has been gathered through timidity and nerveless after-treatment, the operation still remains one of the most valuable, if not the most valuable, procedure in the treatment of these deformities. One Lorenz, in 1784, at the suggestion of Thilenius of Frankfort, is credited with the first section of the Achilles tendon for the correction of clubfoot. The first tenotomy in England is credited to Mark Anthony Petit in 1799. For more than 30 years it does not appear to have been repeated in that country. On the continent Michaelis operated in 1811, Sartorius in 1812, and Delpech in 1816, but to Stromeyer of Hanover, more than to any other, do we owe the development of the operation in 1831. To him went Dr. William J. Little of London with his own clubfoot when he could find no surgeon in England who would attempt the operation. Little introduced the operation into England and popularized it there in 1836. In this country Dr. David L. Rogers of New York operated in 1834, and Dr. James H. Dickson of North Carolina in 1835, but to William Detmold, a student of Stromeyer in Hanover, who came to New York in 1840, we really owe the introduction of the operation here. In 1847 the great Valentine Mott said: "Notwithstanding the facts, the question of tenotomy still re-

mains undecided." When, however, David Prince of Illinois wrote on the subject in 1866, Louis Bauer of Brooklyn in 1868 and Louis A. Sayre of New York in 1875, the operation may be said to have really received the sanction of the masters of orthopedic surgery. In the beginning the operation was simply a division of the Achilles tendon, later the tendons of other shortened muscles were also divided, also the plantar fascia. Surgeons were satisfied with a partial correction of the deformity, fearing non-union of the cut tendon if the ends were widely separated. This timid method of cutting the tendon and waiting a few days till soft union had taken place I found still the practice at the Royal Orthopedic Hospital in London in 1888, despite the fact that as early as 1838 Scoutetten advised immediate correction of the deformity and Sayre in New York and R. W. Parker in London had practiced immediate correction for years. It may still be the practice there for all I know. The choice between a subcutaneous tenotomy and a tendon-lengthening by an open incision is one that admits of discussion. We grant that an operation by open incision is a more proper surgical procedure, provided, first,

Fig. 14.—Feet of a child, 7 years old, before and after correction by "hand modeling" and tenotomy of Achilles.

that the operator is a clean surgeon, and, second, that the function of the foot after an open lengthening is as good as when a subcutaneous division is made. I am inclined to believe that all operators are not clean surgeons, and I know that the function of the foot is not as good where a large open wound has been made as where a subcutaneous division has been performed. Further than this, the correction of a clubfoot which has relapsed after operation by open incision is a nasty job, far more difficult than one which has relapsed after a tenotomy. Cases do relapse, no matter what the method or who the surgeon may be. The first real advance in tenotomy after Stromeyer's time was that by Scoutetten in immediate over correction of the deformity, the second followed R. W. Parker's anatomic studies and was the subcutaneous division of all tight bands in the neighborhood of the inner malleolus, and the third is the subcutaneous division of all tight bands anywhere that can not be safely stretched or torn. With strong hands for "modeling redressment," with the occasional help of the Grattan osteoclast and with tenotomy, I have been able to correct all clubfeet that have come to me. My cases have run, as will be seen by the table of statistics, from infancy to 32 years of age with the most extreme deformity.

The open operation of Phelps is well known. Originally it consisted

of an incision commencing at a point where the tendon of the anterior tibial muscle passed near the inner malleolus and was carried down to and two-thirds across the sole of the foot; all the tissues were cut from the skin to the bones. Even then the deformity frequently could not be corrected without the aid of a powerful machine, and sometimes even an osteotomy had to be added. All this meant much exposure of the wound and frequent infection. I have not performed this operation for fifteen years and I never expect to make the operation again. Jonas' method of covering the gaping wound by a V-shaped incision through the skin and a sliding flap is to be recommended to any one who feels that he must do the operation. In my opinion, it is in itself not sufficient in severe varus deformities and is both mutilating and unnecessary in the milder grades of deformity. Osteotomies extend all the way from a linear osteotomy of the neck of the astragalus, or the anterior portion of the os calcis, through a chopping up of all of the bones of the tarsus, until the foot feels like a bag of beans, as recommended by Fitzgerald of Australia, to a cuneiform osteotomy or tarsectomy, amounting to the removal of a wedge from the upper and outer aspect of the foot equal to a third of the tarsus. This operation mutilates the foot beyond all possibility of repair. Nothing worse could be conceived except an amputation, if even that is worse. Excision of the astragalus in adult cases may be demanded in rare instances, but it should not be performed until an *x*-ray picture has shown that the tibia actually articulates with os calcis at the posterior portion of the ankle joint and that the bone is simply an insurmountable wedge between the os calcis and tibia at the front of the joint. Amputations, like cuneiform osteotomies, may be performed if the surgeon knows no better way of ridding the patient of his deformed foot and if the patient knows no way of finding a better surgeon.

FOUR CASES OF PROSTATIC OBSTRUCTION.*

DR. W. T. BELFIELD.

CHICAGO.

In these latter days, a man who has gray hairs and suffers from urinary difficulties is in imminent danger of prostatectomy, which is sometimes needed, at other times not. For in many of these patients the prostate is not responsible, in spite of their gray hairs; they suffer from vesical calculus, from carcinoma or papilloma of the bladder; from locomotor ataxia. I have recently seen a patient whose urinary troubles were entirely due to this spinal cord lesion, and yet who had narrowly escaped prostatectomy in each of two Eastern cities. It should be remembered that many elderly men have urinary troubles, including cystitis, without any obstructive disease of the prostate.

The prostatic diseases of elderly men that do cause urinary obstruc-

* Presented before the Chicago Medical Society, Dec. 20, 1905.

tion are four: 1, Sclerosis; 2, pus infection; 3, hypertrophy (adenoma); 4, carcinoma.

1. *Sclerosis of the prostate* is frequent, without enlargement of this organ; indeed, the prostate may be smaller than normal. The successful surgical treatment is not prostatectomy, because this fibrous prostate can not be enucleated, as experts like Freyer and Albarran acknowledge. It consists of channeling a canal through the fibrous vesical orifice by means of the galvano-cautery, introduced through a median perineal urethrotomy. This operation of galvano-prostatotomy I performed and published in *The Journal of the American Medical Association* in 1885. Within a few years it has been adopted by Chetwood, who uses a special cauterizing instrument instead of the simple galvanic knife.

This patient, 68 years of age, began to develop the usual symptoms of prostatic obstruction eight years ago, culminating three years ago in complete retention, since which time he has been unable to urinate except through a catheter. His prostate is not enlarged; indeed, is smaller and thinner than normal. Three weeks ago I made a median perineal urethrotomy; the finger, introduced into the bladder, found a fibrous ring, but no prostatic enlargement. Prostatectomy was not only useless, but practically impossible. A galvano-cautery knife was introduced alongside the finger, its blade placed on the fibrous ring, the finger withdrawn and the circuit closed so as to heat the knife. After a few seconds the current was broken, the knife cooled and withdrawn. To-day he urinates without a catheter, his residual urine is about one ounce, the urine still contains a little pus, he holds the urine two hours or more without discomfort. This is three weeks after operation.

2. *Hypertrophy (adenoma) of the prostate* is illustrated in this second patient, 75 years old, from whom a large middle lobe and two lateral outgrowths were removed by the same median perineal urethrotomy performed for galvano-prostatotomy in the first case. The result is even better than in that case, thanks not to the operation but to the better condition of the bladder. Two weeks after operation, the patient is holding his urine for two to three hours. The residual urine is less than one-half ounce. This operation is not practicable when the prostate, especially its median lobe, is greatly enlarged. And it must not be mistaken for "perineal prostatectomy," in which the posterior surface of the prostate is exposed and opened. This latter operation, so popular in recent years, is rapidly being abandoned, because of its unfortunate sequelæ, permanent fistulæ, incontinence and cicatricial contraction of the vesical neck.

3. *Carcinoma of the Prostate.*—This is a disease of elderly men, unfortunately common and usually mistaken for simple hypertrophy. According to our present knowledge, about one out of every ten cases of "prostatic enlargement" in men over 50 is cancer. I have the misfortune to have 8 cases of prostatic cancer under my observation at present. Radical operation, extirpation of the cancer, is rarely if ever successful even in prolonging life, and is often immediately fatal. Surgical aid seems at present best limited to providing a suprapubic exit for the

urine. It is the almost universal practice to secure this by means of suprapubic cystotomy. The patient here presented illustrates a much simpler and safer method, namely, simple puncture with a small trocar and canula; a small soft catheter is then introduced through the canula, which is then withdrawn, leaving the catheter to drain the bladder. After three or four days the catheter is removed, cleansed and reintroduced through the fistulous track. Thereafter the catheter is removed and cleansed daily and the bladder washed out by the patient himself. It is always desirable to inspect the vesical interior to determine the presence of calculi; often the cystoscope can not be introduced through the prostatic urethra, because of the cancerous growth. In such cases a straight cystoscope can be introduced through the suprapubic canula at the time the puncture is made. All this can be done without any anesthetic, or under nitrous oxid narcosis. The patient here presented was thus treated at the Alexian Brothers Hospital: Punctured with a trocar, a straight cystoscope introduced, the bladder inspected, then a permanent catheter inserted and the canula withdrawn.

4. The last patient illustrates two of the common evil results of perineal prostatectomy, namely, a permanent perineal fistula and permanent incontinence of urine. Many such, operated on by excellent surgeons, have come under my observation. It seems to me that this operation, the removal of the prostate through its posterior surface, should be generally abandoned, as it has already been by various prominent surgeons.

I would mention three operations for the removal of prostatic obstruction: 1, Galvano-prostatotomy for channeling a fibrous prostate; 2, enucleation of adenomatous masses from the mucous surface either (a) through a median perineal urethrotomy or (b) through a suprapubic incision, the former when the growths can be reached from the perineum, otherwise the latter. The suprapubic incision is best made in two stages—the first incision extending to, but not through, the bladder; four or five days later the second incision—through the bladder—is made, and the prostatic masses are enucleated. In this way the chief danger of the suprapubic operation—septic infection of the suprapubic tissues—is minimized.

Nitrous oxid is the anesthetic preferred; if air be admitted with the gas, the narcosis may be prolonged indefinitely.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF THE ILLINOIS STATE MEDICAL SOCIETY.

GENERAL OFFICERS 1905-06

PRESIDENT - - - - - H. C. MITCHELL, CARBONDALE
FIRST VICE-PRESIDENT - W. K. NEWCOMB, CHAMPAIGN
SECOND VICE-PRESIDENT - - M. S. MARCY, PEORIA
SECRETARY - - - - - EDMUND W. WEIS, OTTAWA
(Ex-officio Clerk of the Council.)
EDITOR - - - GEORGE N. KREIDER, SPRINGFIELD
522 Capitol Avenue.
ASSISTANT EDITOR - - FREDERICK R. GREEN, CHICAGO
5627 Prairie Avenue.

THE COUNCIL

W. O. ENSIGN, RUTLAND. E. E. FYKE, CENTRALIA.
J. H. STEALY, FREEPORT. C. BARLOW, ROBINSON.
O. B. WILL, PEORIA. J. T. MCANALLY, CARBONDALE.
CARL E. BLACK, JACKSONVILLE. M. L. HARRIS, CHICAGO.
J. WHITEFIELD SMITH, BLOOMINGTON.

FEBRUARY, 1906.

GOVERNOR DENEEN'S PROGRESS IN REFORMING ILLINOIS STATE INSTITUTIONS.

Under this caption, the editor of the *Ohio State Medical Journal* has, in his February issue, given place to an editorial, which is given in full below. It is hardly necessary to say that we appreciate highly the kind words uttered regarding the attitude of the Illinois State Medical Society and the ILLINOIS MEDICAL JOURNAL in this matter. Very few of our readers understand what this attitude has cost us during the past four or five years. Our motives have been impugned, our statements contradicted and many long friendships have been sundered, because we have dared to speak what we believed to be the plain truth regarding the Institutions and Boards of Illinois and those responsible for their mismanagement. But, as the *Ohio Journal* intimates, a brighter day is dawning. Drs. Billings and McAnally, Miss Lathrop and Rabbi Hirsch have accepted positions on the State Board of Charities and will soon inaugurate a new era or, rather, renew the golden era of these Institutions, which was so wantonly broken up by such spoilsmen as Altgeld and Tanner and continued by the inane Yates, notwithstanding his solemn promices to reform the misrule of his predecessors. Governor Deneen has our congratulations and thanks for what he has already done, and we await with patience the day when he will undertake the reform of that other Board so near and dear to the medical profession and the people of Illinois.
to the medical profession and the people of Illinois.

The Ohio State Medical Journal editorial reads as follows:

Light dawns on the abysmal chaos in which ten years of political mis-

management has forced the reformatory and charitable institutions of Illinois. Silently, but surely, and with a relentless disregard for the convenience and comfort of the horde of parasites, high and low in official or political degree, Governor Deneen is nullifying the evil conditions which developed and throve during the administration of at least two [three. Ed.] of his gubernatorial predecessors. There is no clamor and ostentation about this most commendable reform. It began by the adoption and enforcement of a strict merit system as the requisite for service, and it proceeded by a reorganization of the working force in the various institutions, a process still far from complete, but sufficiently advanced to strike terror to the grafters in officialdom and the ward healers among the employés both in Illinois institutions and in those adjoining states in which reformation is demanded by public sentiment and where it soon will begin.

The purposeful method of Illinois' chief executive comes into striking evidence in his most recent action reorganizing the State Board of Charities and restoring to the place which they had adorned two of America's foremost charity experts, Rabbi Emil G. Hirsch and Miss Julia Lathrop, whose resignation, forced by the appointment of an obnoxious political secretary, was one of the most conspicuous of numerous institutional scandals of the Yates régime. A further wise and salutary action consisted in giving representation on the new charities board to two prominent physicians, Dr. Frank Billings, of Chicago, and Dr. John T. McAnally, of Carbondale. The selection of Dr. Billings as president of the board is a graceful compliment to the medical profession of Illinois and, indeed, of the country at large. His ideals of professional obligation are the highest, and his record in institutional rehabilitation as achieved in the Cook County institutions at Dunning mark the new president of the Illinois charities board as possessed of the qualifications necessary to carry forth the uplifting movement which promises to restore the state institutions of Illinois to public and professional confidence.

It has already been referred to, but it will bear repeating, that the medical organizations and the journal of the state medical society in Illinois took a prominent part in the agitations against the perpetuation of a corrupt political spoils system in the Illinois institutions.

DR. McCORMACK WILL VISIT ILLINOIS.

At the invitation of the Council of the Illinois Medical Society, Dr. J. N. McCormack, Chairman of the Organization Committee and National Organizer of the American Medical Association, has consented to devote the month of April to organization work in Illinois. For the last two years Dr. McCormack has been giving the greater part of his time to this work, in which he has been pre-eminently successful. During the fall and early winter he made an extended tour through Minnesota, North and South Dakota, Montana, Idaho, Washington, Oregon, California, Texas and other states. Wherever he has gone he has met and talked to the members of the medical profession, urging on them the necessity of proper organization as a means of improving the condition of

the profession and of increasing its influence for good in the community.

His extended experience and wide range of observation have given him a knowledge of the problems of medical sociology such as few men possess. Probably the most unique and valuable feature of his work has been the meetings arranged for him by the local profession in the towns which he has visited, to which were invited not only all the physicians of the community, but the clergy, the local bar, the school teachers and business men and the general public. The result has been a stimulation of effort toward real and effective medical organization and a deeper appreciation of the influence which can be exerted by the local medical society, not only on its own membership, but on the general public as well.

Such work has been of great value in other states and it is greatly needed in Illinois. The old idea of a medical society was an organization which met monthly, quarterly or annually, at which a few physicians met, read papers and discussed them, and after a day spent in scientific work, the society adjourned and remained in a condition of suspended animation until the next regular meeting. Such a society was undoubtedly of great value, but its influence was largely limited to those of its members who attended the meetings. The ideal medical society is all this and something more. It is an ever active organization, including all the reputable physicians practicing in its territory, a component part of the organized profession of the state and nation, in close touch with all matters of public interest which it can influence for good, keenly alive to its responsibilities as the authoritative mouthpiece of the profession and ready and able at all times to co-operate with any agency outside its own membership whereby local conditions may be improved. Such organization is needed in Illinois. It can only be brought about by the local physicians themselves, yet Dr. McCormack can and will be of great assistance to our county medical societies throughout the state by giving to each society he visits the aid of his experience and observation.

Dr. H. C. Mitchell, President of the Illinois State Medical Society, has written to each Councilor and County Secretary in the state asking that arrangements be made to give Dr. McCormack the largest possible opportunity to meet and talk to the medical profession. Meetings have been arranged at the following places: Carbondale, April 2; Mt. Vernon, April 3; Centralia, April 4; Decatur, April 5; Olney, April 6; Newton, April 7. This will bring him to the center of the state. President Mitchell asks that all possible efforts be made to arrange for meetings for the remaining days of the month. County societies and officers are urged to communicate at once with Dr. Mitchell and advise him regarding the time and place of desired meetings. The complete itinerary will be announced in THE JOURNAL in a subsequent number.

In behalf of the Illinois State Medical Society and its component societies, THE ILLINOIS MEDICAL JOURNAL extends to Dr. McCormack

a hearty welcome and the hope that his month in Illinois may be productive of great good to the profession and to the public.

THE CRUSADE AGAINST VENEREAL DISEASES.

The effects of a successful campaign against tuberculosis are apparent in increased sanatorium facilities and a general increase of knowledge. The public protects itself because it knows how, and the spread of infection is diminished because the people have been taught certain elementary facts regarding preventive measures. The time has come now when the profession is awakened as never before to a realization of the extent of the venereal plague. At last the value of publicity regarding the venereal diseases is acknowledged and practical methods of prophylaxis are being urged, practical means of limitation are being adopted. Germany, France, Italy, Spain and Holland have organized societies for the study of these diseases in all their aspects, with special reference to educating the public in regard to the danger of infection.

In the United States, Dr. Prince A. Morrow and other eminent practitioners organized a year ago the Society of Sanitary and Moral Prophylaxis, with headquarters in New York. Last December the Detroit branch was successfully inaugurated. The call for the meeting stated that " the meeting is for a consideration of the so-called social evil diseases and the best methods to be employed to get before the people the dangers attending these affections and the ways by which they can be avoided." Dr. Burr of Flint showed the cost to the state of patients who are in asylums as the result of these diseases. President Angell of the University of Michigan wrote words of commendation, and Dean Hutchins of the law department, who was present, spoke of his interest in the movement. Several clergymen spoke, expressing their approval of the efforts of the profession to disseminate actual knowledge. Addresses were also made by principals of schools and public-spirited business men. Dr. Denslow Lewis, of Chicago, told of the opposition he had encountered in attempting to interest the profession in the consideration of matters relating to sex problems.

This meeting marks a new era in professional endeavor and practical humanitarianism. At last the profession is aroused to the necessity, not only of a thorough investigation of all conditions relating to the venereal diseases, but also to a diffusion of the knowledge already possessed. There is no longer fear of "recognizing" prostitution. We no longer believe, as Howard Kelly said at the Columbus meeting of the American Medical Association, that "the discussion is attended with more or less filth and we besmirch ourselves by discussing it in public." We want to save the young by teaching protection through knowledge. We will show the danger, explain the methods of infection, tell of the consequences, make manifest the facts, evoke the honor of the young man, and dispel the ignorance of the young girl, so that she may know the danger that besets her. When these things are done in an honest and common-sense manner the results are certain.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY MEDICAL SOCIETY.

The regular monthly meeting of the Society was held Monday, January 8, at the Elks Club, Quincy, with President Koch in the chair. Those present were Drs. Ashton, Brenner, Baker, Becker, Center, Christie, Jr., Ericson, Gilbert, Gilliland, Hart, Koch, Knapp, Knox, Knapheide, Lightle, Fesen, Montgomery, Nickerson, Nichols, Pfeiffer, Pendleton, Reticker, Rice, Robbins, Rosenthal, Shawgo, J. B. Shawgo, Kirk Zimmerman. Drs. W. Zimmerman of Quincy and McComas of Pittsfield were also present. The meeting was called for 11 a. m., and, after a short business session, lunch was served by the Elks. Following an excellent lunch, the session of the Society was resumed.

The various aspects of medicolegal conditions were discussed, as was also the attitude taken by corporations toward surgical aid. The present local status of the two conditions was very unsatisfactory, and the committee on program and scientific work was ordered to arrange a meeting with the attorneys and manufacturers. An amendment was adopted changing the hour of meeting from 2 p. m. to 11 a. m., the change being acceptable to both city and country members. The scientific program, consisting of a symposium on pneumonia, was postponed until the February meeting. After a vote of thanks to the Elks both for the use of their club rooms and the very enjoyable entertainment afforded, the meeting adjourned. GEORGE E. ROSENTHAL, *Secretary.*

CHICAGO MEDICAL SOCIETY.

The regular meeting of the society was held at the Chicago Public Library, November 8, with the President, Dr. Charles S. Bacon, in the chair. The following program was presented:

Locomotor ataxia, Dr. Edward F. Wells, discussed by H. N. Moyer, H. T. Patrick and L. H. Mettler.

LOCOMOTOR ATAXIA.*

EDWARD F. WELLS, M.D.

CHICAGO.

Locomotor ataxia, or tabes dorsalis, is an infrequent disease, affecting oftenest males who are usually syphilitic. It is probably due to some special cause which finds in the subject of syphilis its most congenial soil. The essential features of the morbid anatomy, upon which all the striking symptoms depend, are degenerations of the posterior roots and columns of the spinal cord. The onset is so insidious and the incipient stage so prolonged that the initial symptoms are usually, but not necessarily, unrecognized. Upon the recognition of the early manifestations, however, rest largely the welfare of the patient and the good name of medicine; they may and should be detected and their importance appreciated. The peculiar pains are, in the great majority of cases, the earliest symptoms. Other early manifestations are the visceral crises and the loss of certain reflexes, the most striking of which are the knee jerk and iridoplegia. In some rare cases paresis of the bladder or atrophy of the optic nerve appears. The latter is of prognostic importance because other symptoms are usually stayed in their progress or do not arise. Motor incoördination, which gives to the malady its name, becomes, in time, the most prominent symptom. The inco-ordination is limited

* Abstract of a paper read before the Chicago Medical Society, Nov. 8, 1905.

to the parts enervated by nerves passing through the affected roots and columns, and is, therefore, usually most marked in the lower extremities. Static ataxia is also present. There is loss of muscular sensibility and tone. Brittleness of the bones, leading to fractures from slight injuries; Charcot's joint, the peculiar foot known as the tabetic foot and the perforating ulcer of the foot are the most frequent and striking of the trophic disturbances. The duration may be, and usually is, very prolonged. This applies to the malady as a whole and to the various stages as well. Thus the pretaxic stage may cover from five to fifty years; the final paralytic stage may confine the patient to his bed for many years. The victim is often carried off by some intercurrent affection, but if he lives long enough he will die of tabes. The diagnosis may be made early upon the symptoms noted. One point of paramount importance in making early diagnoses is a recognition of the fact that such striking symptoms as the loss of the knee jerk and the presence of the Argyll-Robertson pupil may be, and usually is, early, present only at times, as, e. g., during exacerbations of pain and the visceral crises. Later, with such an assemblage of symptoms and signs as is presented in this malady, a diagnosis can not be avoided. The treatment, when intelligently formulated and persistently followed, may be very useful in relieving distressing symptoms and in staying the progress of the disease. The pains may be relieved by hot baths, or, preferably, by placing the patient in bed and inducing gentle and prolonged perspiration. Morphia may be required in the most severe cases, although rarely in my experience. I prescribe and advocate the use of the bichlorid of mercury in moderate doses, given, with proper intervals of rest, for many months, or usually years. Intestinal fermentation is constantly guarded against. Every effort is made to obtain and retain the confidence and interest of the patient; his intelligent co-operation is courted and encouraged from start to finish. I am quite sure that a tabetic patient will fare better in the care of one intelligent physician than at the hands of many, no matter how eminent.

DISCUSSION.

Dr. Harold N. Moyer: I wish to commend Dr. Wells for bringing this subject before us. The experience of one who sees much of locomotor ataxia shows the necessity of an occasional discussion of it in medical societies. More than half of the tabetics that come to me have had a diagnosis of rheumatism or of some other affection. Not alone is the general practitioner at fault in this matter, but the entire profession from the top to the bottom. Our surgical confrères should have this disease in mind to prevent them from operating upon stomach cases that have gastric crises. The genito-urinary surgeon is occasionally at fault with his prostatic operations in cases in which the crises are in the pelvis, and so on through the whole list. Dr. Wells has given us what might be called a classical description of tabes. I confess that I do not like it. The idea of a progressive malady, beginning with certain groups of symptoms, passing on to a secondary group and then to a last group, involving the lower extremities, is the classical notion which is found in the average textbook. A broader and far better clinical conception is to disregard the idea of order or progression in the symptoms. What he has given is the general rule, but the exceptions are so numerous that the general rule is almost valueless. Tabes is essentially a disease of the posterior roots and posterior columns of the spinal cord—that is, of the entire afferent nervous apparatus which conveys sensation from the skin, the viscera, joints, muscles and tendons, as well as the sensations of temperature and pain. If we think of tabes not as a definite grouping of symptoms, but as a disease of the posterior columns and of the roots connected therewith, we will have a better conception of it, because it may begin at any level in the cord. Usually it begins low down and travels upward; sometimes it begins above and travels downward, or it may begin at any level. It is a simple thing to investigate these various levels. If sensation is impaired at a particular level, and peripheral involvement can be excluded, it should suggest tabes, whether it is in the upper or lower extremity. Such an investigation is easily and quickly made.

The classical signs he describes—swaying, loss of knee jerks, lightning-like pains and the Argyll-Robertson pupil—are the cardinal symptoms.

This should be the understanding of tabes, but if we have the idea of a progressive affection, beginning and ending in a certain way, we misinterpret a large number of cases. In examining any organ that is apparently at fault, as the larynx, the stomach or bladder, tabes is always to be thought of as a possibility in the diagnosis.

Dr. Hugh T. Patrick: I did not hear the first part of Dr. Wells' paper, but there is one point in examining for symptoms which I would like to mention. It is the more present in my mind because to-day one of my oldest and best assistants made a mistake in examining a case of tabes, saying there was no analgesia. The way he examined for it was to see whether the patient could recognize or feel the point of a pin as distinguished from the head. The patient could always feel the prick of the pin, but nevertheless there was marked analgesia of the legs. When I stuck her deeply and obliquely, which always causes considerable pain in a normal person, she had no pain. That is the way to examine for areas of analgesia. There are many points worthy of mention in that part of the paper which I heard, concerning which I heartily agree with the author. There is one little caution to be observed, however, with regard to hot baths. A warm bath for cleanliness is not to be forbidden to a tabetic, but prolonged hot baths, Turkish baths, Russian baths or a good soaking in a tub of hot water for pain are to be categorically prohibited, because they may cause an aggravation of the disease. That statement I got from Erb many years ago, and its validity has been confirmed in my experience repeatedly, notably in the case of patients who have severe lancinating pains or distressing paresthesia in the legs, and who have been advised, by some friend ordinarily, sometimes by a physician, to take a course of Turkish baths for relief, on the supposition that the trouble is rheumatism or some similar affection. Some of these patients have thereby been made definitely and rapidly worse. I have seen the same thing happen repeatedly in patients who have gone to Hot Springs, Ark., and have there taken a course of hot baths for various sensory disturbances. There is no question that occasionally the pains are relieved by these baths. I do not know why some are improved and not others. Many of them are made much worse, and some of the physicians at Hot Springs have assured me that they have observed the same thing. With regard to the use of mercury and iodids in the treatment of tabes, I have undergone a change of heart, because formerly I used both as one does in tertiary or late syphilis. I have become convinced, however, that iodid makes tabetics worse, whereas mercury makes them much better. Some tabetics, pretty well along in the disease, are definitely benefited by a very active course of mercury. I give it by the skin, but it can be given hypodermically. I do not believe in giving it by the stomach, because we can not give enough mercury in that way without irritating the gastrointestinal tract. Dr. Wells may be able to fill up his patients with this agent without irritating the stomach. I can not do it. I give about two drams of the ointment by inunction twice a day for a month or more. Care of the mouth is exceedingly important. It is not to be overestimated in the administration of mercury in large doses. Patients who can not take one dram of mercury every other day with a foul mouth can take two drams twice a day with a clean mouth; not that they absorb all of the two drams, but they get a lot.

I wish particularly to commend Dr. Wells' recommendation of putting tabetics to bed. Patients in whom general nutrition is failing, who are getting weak and failing in flesh, ought to be put to bed at once, and in all cases of repeated pains, which continue day after day, rest in bed is imperative. There are other things that might be added. What intestinal absorption has to do with starting pains I do not know; but I do know that some of these patients do very well on a daily colonic flushing. Put the patients to bed, give a colonic flushing every day, or twice a day for weeks, and they are exceedingly comfortable. It helps a great many of these patients, but not all of them. Stretching of the spinal cord or spinal column helps some. I do not know why. I wish I did. With reference

to what has been said about surgeons operating on some of these cases, I will say, as an illustration, that within three months at one of my clinics I have had two cases of gastric crises in which abdominal section was resorted to by a surgeon who is deservedly ranked as one of the greatest in the United States.

Dr. L. Harrison Mettler: I want to emphasize a point that seems very important to me in relation to the diagnosis of tabes dorsalis. I believe that we ought to try and forget that it is a disease of the spinal cord or of any part of the cord. The diagnosis is not primarily made upon the mere symptoms of any disease, but upon the accuracy of the interpretation of those symptoms. Individual symptoms and even elaborate groups of symptoms are sometimes marvelously alike in quite dissimilar diseases. We all know how the pseudo-affections often resemble the true affections, as a shadow resembles a substance. True tabes, for instance, is at times extraordinarily like the pseudo-tabes of central syphilitic and of certain polyneuritic origin. We need some way of differentiating these cases from one another, else we will find ourselves taking credit for curing tabes when actually we have been treating and benefiting a mere pseudo-tabes. Our knowledge of true tabes has increased in the last few years to such an extent that we are departing from the idea that it is solely and essentially a spinal-cord disease. We are recognizing that it is a very much more extensive trouble; that it is, as has already been hinted at, a degenerative disease of the peripheral sensory apparatus, of that part of the sensory nervous system that first receives the external stimulation and transmits the impulse inward to the central organ. This explains the presence of eye symptoms with leg symptoms, crises of the viscera with cutaneous anesthesia, etc. An interruption of the symptoms under this conception as they arise will go a long way in helping us to diagnose many cases when such a diagnosis, early in the disease, is of real value. The character of the symptoms, their location, their grouping and the absence or presence of other related or unrelated manifestations are the essential points to be noted, and not merely their dependence upon a supposed disease in the posterior columns of the cord. It is of no special credit to the physician and of very little help to the patient to diagnose tabes dorsalis when all of the classical symptoms—the completed picture—of the disease are fully present. It is when there is a transient diplopia; when the bladder function is disturbed; when there is a slight beginning difficulty in walking, especially in the dark; when the pupil is acting a little peculiarly; when rheumatoid pains are complained of; when the optic discs are showing a slight change; then we should attempt and make the diagnosis. As nearly all of these symptoms may appear in other diseases in one way or another, we have to study them from particular points of view rather than as mere symptoms. Their appearance in a syphilized individual, their simultaneous wide distribution, etc., must be given prominent consideration. The distinctly sensory origin of the essential ones among them and the appearance of the more important of them in those neurones that are subject normally to the greatest and most prolonged strains are especially characteristic. For example, we all know that during the waking state no neurones are probably kept in more constant activity than are the apparent neurones associated with the functions of sight and walking. There was a case reported wherein the earliest symptoms appeared in the right arm. I refer to the well-known case of the London 'bus-driver. The influence of strain in the localization of this wide sensory disease process is strongly suggested in this case.

The point I wish to emphasize is this: We can not diagnose tabes dorsalis, except in relatively advanced and clear cases, upon any well-founded, classical, distinct, definite, well-established picture. We have got to take the symptoms individually, or, better still, in small groups, and interpret them from the broad standpoint of their presence being due to more or less strain upon certain groups of neurones in the great peripheral sensory apparatus of a syphilized individual. This, in a broad way, will give one the picture of a progressive sensory degenerative process.

This leads me to the second point that I desire to emphasize, namely, the therapy in relation to true tabes and pseudo-tabes. There are cases of the pseudo

type as well as cases in which a beginning tabes is associated with still active syphilis of the arteritic sort. These must be carefully kept apart from the cases of pure, true, uncomplicated tabes. The point must be here strongly remembered that true tabes is primary degeneration in a particular set of neurones, as I have indicated, and is nothing else. The moment we get pure motor manifestations or symptoms indicating a disease process outside of that belonging to true tabes we have, with the latter, a complication, tabes plus something else. Under mercurial treatment it is this plus something else and not the essential tabetic process that in my opinion is benefited. In this way we are all misled at times in supposing and in affirming that some of our tabetic patients have improved under antisyphilitic medication. I am convinced from my own observation and the reports of others that true tabes, the degenerative process in the neurones which we now recognize as the essential basis of the disease, is incurable and not modified by any sort of treatment of a mere medicinal character. But I am equally satisfied that we are often called upon to treat cases in which a degenerative process early in the disease is associated with a more or less marked, obscure, pseudo-tabetic, arteritic, syphilitic condition, and that in these cases we often get marked improvement in the general symptomatology with the heroic use of mercury. In these few words I have endeavored to emphasize the point that we should look at tabes dorsalis in a broader way than is usually done and interpret the symptoms rather than take them merely as the constituents of a fixed and complete picture of the disease. This will, as a rule, best enable us to make the early diagnosis of the trouble, the diagnosis that, after all, is the only really valuable one.

Secondly, I have endeavored to emphasize the fact that we should not mistake pseudo-tabes, mixed tabes and tabetic conditions associating themselves with other syphilitic and curable conditions with the pure disease which we mean when we use the term, bad as it is, tabes dorsalis.

Dr. Edward F. Wells: I thank the various speakers for the discussion they have given my paper. I intended that the keynote of the paper should be the early diagnosis of tabes. There is no question about the diagnosis of this affection when the disease is well established; but its diagnosis in the earlier stages is a diagnostic feat of no mean importance. For this reason I dwelt particularly upon this feature, a foundation for the extended remarks made upon the management of the earlier stages of tabes. I would say that in my paper no mention was made of Turkish baths or prolonged hot baths in any stage of tabes, because I do not advocate them. But I would like to ask Dr. Patrick whether in his experience the fulgurant pains of early tabes have not been decidedly ameliorated by putting patients to bed and keeping them in a gentle perspiration.

Dr. Patrick: Putting patients to bed is essential in the treatment of any case of fulgurant pains. While I have not kept patients in a gentle perspiration while in bed, I shall be pleased to try it hereafter.

Dr. Wells: My own observation has been that such management affords the greatest relief to those patients. Many of these patients do best if taken into our confidence while managing them, and if they are put to bed immediately upon the appearance of these pains they will require no morphia for their relief. This has been my experience. Mention has been made of the non-use of iodid of potassium. In a portion of my paper which I did not read I specifically mentioned that iodid of potassium was not advocated and that I fear the use of it. I am heartily in favor of the persistent use of mercury in the early stages. I submit these patients to frequent examinations of the urine every two or three weeks, or every month at least, and whenever indican is found in large excess the diet is gone over carefully and readjusted. If such formatives can be gotten rid of by such dietetic measures, well and good; if not, salol or some other intestinal antiseptic is employed. I am quite familiar with the objections to salol and the other so-called intestinal antiseptics. Theoretically they are of no value, but practically a patient with foul-smelling bowel evacuations if given a small dose of salol three times a day will have this condition corrected.

To make a diagnosis early in tabes and to manage the malady properly is an

art, not a science, and the best results can only be obtained by assiduous attention to the various symptoms as they arise, and from these obtain our conception of the morbid anatomy in the individual case. This I think preferable to viewing these cases exclusively from the standpoint of morbid anatomy. The patient's interests are best subserved by maintaining his intelligent and hopeful interest and confidence in the medicinal and hygienic measures which are employed in the management of his case.

Dr. Hugh T. Patrick: As I feel intensely on the subject, I am impelled to say a word or two in modification of Dr. Wells' absolutely unassailable principle that the patient should be taken into the confidence of the physician. I think that is to be done only with infinite tact—if a man ever has infinite tact. There are some people who may never be told that they have locomotor ataxia, because if they are told that they have it they at once become so despondent, so absolutely hopeless about it as to make treatment impossible. Believing that it is an affection which is not only incurable, but means insanity, paralysis, all the medical calamities combined, they immediately resign themselves to rapid dissolution. Hence to tell them that they have locomotor ataxia is at once to defeat the object of the physician. I agree entirely with Dr. Wells that a physician must so conduct himself in his relation to his patient as to get control of that patient and get him to do the various things which Dr. Wells has so well outlined, and all of which have my approval; but I must very positively dissent from any general proposition that a patient is always to be told what he has. I have no doubt Dr. Wells will grant me that slight modification of what he has advocated. I have seen on a few occasions not only unfortunate but really deplorable effects from simply telling the patient what he had.

Dr. Wells, closing the discussion: Replying to the remarks of Dr. Patrick, I am quite sure that the proposition I made is the one that should be followed generally, if not always. The whole subject of our connection with any case is to benefit the patient. I believe something may be done to relieve these patients, and I am quite sure that any patient with a chronic ailment, such as tabes, will do far better in the hands of the ordinary general practitioner, such as I am, for example, to continue day after day, week after week or year after year, even to twenty or fifty years, than he would by going alternately, month after month, to the most brilliant physicians in the land, such, for example, as the last speaker, and, not to be invidious, the other speakers who have taken part in this discussion. I am quite sure of this. The only way to accomplish this result is to be fair and frank with patients. The patient must be taken into partnership in the management of his case; you must obtain his confidence. This can easily be done, but to retain his confidence in this malady as it progresses from bad to worse shows, I think, the highest tact and art of the medical man.

DISCUSSION ON THE PAPER OF DR. BELFIELD.

Suprapubic versus Perineal Prostatectomy, Dr. William T. Belfield, discussed by Weller Van Hook, E. Wyllys Andrews, F. Kreisal, A. E. Halstead, Edward F. Wells and Alexander H. Ferguson.

Dr. Weller Van Hook:—It has given me great pleasure to be present and hear Dr. Belfield read one of his classical papers on a subject with which he is so familiar and on which he has been able to advance for us something new this evening. Those who have been in practice quite awhile will recall the fact that Dr. Belfield was a pioneer in attacking vesical diseases by the suprapubic operation, and it is quite natural that he should study this route with reference to operations on the prostate. I suppose most of us have removed prostates by the suprapubic route. It was some twelve or thirteen years ago that I published the first case of prostatectomy I did through a suprapubic incision. The result was satisfactory. Other cases followed, but the results were not quite so agreeable. However, nothing disastrous occurred. It has seemed to me all along that what we need for the treatment of these old men with prostatic difficulties is an operation so simple, so quickly performed by the skilled surgeon, that old, feeble men will not be immediately destroyed by the interference, but will be given immediate relief. My perineal operation by enucleation does this. I am

aware, too, that the perineal operations my professional friends have advocated will do so also. The operation that I have performed for four or five years can be done in from four to fifteen minutes under nitrous oxide gas anesthesia, which, as Dr. Belfield has intimated, is maintained very easily in operations of all sorts, for a few minutes or half an hour or longer. I feel sure that Dr. Belfield's suggestion to suprapubic prostatectomy in two tempos will be of great value to the advocates of that method. It will help to eliminate infection of the suprapubic space or cavity of Retzius. But it is not apparent to me that a combination of the suprapubic and perineal routes will leave less sequelæ than when we employ the perineal route alone. A decision on that point will have to be postponed until the advocates of the combined method, with Dr. Belfield's addition to the technic, can present us with a larger number of recorded cases. It seems to me that the recorded statistics of disagreeable sequelæ of the perineal operation are much more unfavorable than the facts warrant. I agree with Dr. Ferguson quite strongly that in attacking the prostate by the perineal route, we are able to undertake operations on people so old and feeble that a suprapubic operation would be quite out of the question. For my own part, I do not select cases for prostatectomy, but operate on them almost as they come, feeling that the removal of the prostate itself adds very little to the danger of the cystotomy required for drainage.

Dr. E. Wyllys Andrews:—If there ever was an operation that is undergoing evolution, it is prostatectomy. Probably we all agree that this evolution is in an elementary stage. I do not think anyone has yet laid quite enough emphasis this evening on the fact that suprapubic prostatectomy is a "Chicago operation," and that it might properly be called Belfield's operation. Dr. Belfield removed the first two or three prostates, suprapubically, in the history of surgery. In the *British Medical Journal* in the last couple of years Freyer has reported nearly two hundred suprapubic prostatectomies, presenting a number of photographs and beautiful specimens. The operation has been called in England the McGill operation, but it is historically true, and not at all disputed, that Dr. Belfield's cases were demonstrated in Chicago and published at least three months before McGill's first case.

What is the best method? I still think, with Willy Meyer, that at the present stage of operative work some cases of enlarged prostate can be better treated by the suprapubic and some by the perineal route, making all allowance for the imperfections of our methods, which are rapidly being improved.

Next to Dr. Belfield, in Chicago, I feel we are indebted to Dr. Ferguson, for some time before I knew of anyone else in Chicago doing prostatectomy, he was taking out prostates through the perineum. I also like his instruments. After Dr. Ferguson's work, quite a good deal was done in this city by others, and I think the genito-urinary specialists in Chicago deserve at the present time a great deal of credit. Possibly general surgeons are being passed in that special operation by them, and particularly by one or two men who are having remarkable success and adding much to our statistics. I was quite surprised, in talking the subject over and in discussing what seemed to me a large number of cases of my own, to find that one of our genito-urinary men in this city has done over two hundred perineal prostatectomies, and these within a comparatively short time. I still do perineal and suprapubic prostatectomies, suiting the method to the individual case. Dr. Belfield is, I think, exactly right when he says that on the average we can do a quicker prostatectomy through the suprapubic route than we can through the perineal. That is not true, perhaps, of all cases; but we encounter some in which we are taking away tissue which is not prostatic tissue. We know very well that prostates are divided into types, and that there are types of enlargement that are exactly identical with the myomatous uterus.

The enlarged prostate has two or three lobes, two lateral, and a middle lobe, and just as soon as we incise the capsule of the prostate, either through the bladder wall or through the perineal tissue, in the myomatous type we find we enucleate a globular, spherical myoma, and with the lightest kind

of touch it comes rolling out. After we have enucleated on one side and then on the other, out comes the median marble-shaped tumor. The surgeon does not remove the prostate; he enucleates some "fibroids" from it as he removes a myoma of the uterus and cures his patient. Again, he operates on twenty or more cases from above and finds that one or two of these are not suitable to that route. We have what is called the hard or fibrous prostate, which can not be removed except with cautery, knife, gouge or biting forceps which Dr. Ferguson uses, or the rongeur, which is used in biting off pieces of bone. Then, on the other hand, I do not know of any operation in surgery that is quicker and nicer than to remove one of those prostates, which we sometimes encounter, in which there is bulging into the bladder, a tumor of mushroom shape. I remember one case in which I was led to do the suprapubic operation. The prostate had a lobe which was umbrella-shaped; its top was two inches in diameter, with a pedicle not over three-quarters of an inch, and a little circlet of stone half an inch in diameter lying underneath the umbrella-shaped top. The whole thing was removed by passing a wire ecraseur around it.

After encountering such a case one is very glad he did not try the perineal route. After an easy perineal enucleation, one is glad he did not open above the pubes.

If we watch the work of German and American surgeons who do perineal work, we will notice that there are two types even of this operation. For my own part I have drifted into the type which I like to call the Goodfellow operation, which is the nearest approach to the suprapubic, in that it is almost entirely intravesical work; that is, working inside the bladder. Goodfellow of San Francisco did this particular kind of operation early. On the other hand, we see several of the best surgeons, men whose work I do not like to pass over, who are using the so-called Zuckerkandl skin incision instead of a buttonhole at the center of the perineum. This makes a big horseshoe curve. The termini of the curve are the rami of the ischium opposite the anus. The horseshoe-shaped flap is everted, and you see such a beautiful picture by anatomic dissection as is pictured by Young of Baltimore, in which the veins and muscles are laid bare, with the tissue cut away until the prostate is brought into view, and with large-sized hooks is dragged into the field and enucleated through incisions in its capsule. Contrast that with the type of operation done by Goodfellow, in which we can make the simplest buttonhole on a grooved staff, and get into the bladder by notching the prostate right and left. The incision of the capsule is then from the mucous surface of the bladder and the enucleation is done often with the finger just as quickly and easily as in a suprapubic case. I get less hemorrhage and smaller surfaces for infection. I insert a large thick-walled tube and use no sutures. I have made that incision only in perineal prostatectomy of late. I had the good fortune to do a partial prostatectomy through the perineal route on a man who probably did the operation first in America, and that is the Reginald Harrison operation. It is a prostatectomy through the perineum, cutting out a middle section of the prostate, though no attempt is made to enucleate all of the gland. A certain doctor in the West showed me an article which he himself published while residing in New York twenty years ago, describing the Reginald Harrison operation first done by himself in America, and this operation I did on the old doctor himself at his dictation. He was 70 years of age, an active practitioner of surgery. I got a good functional result, although not ideal.

Dr. F. Kreissl:—I have been greatly interested in Dr. Belfield's paper and in the discussion, and there is very little I can add to this subject. Of course, we all know Dr. Belfield is, so to speak, the father of prostatectomy, and when he reads a paper on this subject it demands more than ordinary attention. In 1892, when I was barely able to read English, I saw Belfield's admirable article on diseases of the prostate in Morrow's System of Genito-Urinary Diseases. In an idle hour, running across the same article last summer, I appreciated, much more than I did years ago, the advanced and well-defined ideas which he had on

the technic and the indications for his operation, as well as on the different routes for prostatectomy at the time when others had hardly approached the subject. I do not know exactly whether Dr. Belfield said to-night that he would not perform perineal prostatectomy at all, or whether he only meant he would restrict it to certain cases. At the time when he wrote this article he stated distinctly that the choice of operating depends largely on the location, size and shape of the enlarged prostate; in other words, he said it is a mechanical problem, and this is still true. If he gives preference to the suprapubic route now he must have well-founded reasons for doing so. Naturally, there are certain elements of danger connected with prostatectomy, some of which have been overrated, while others can not be emphasized often and strongly enough, but the real elements of danger are present in the perineal route and in the suprapubic route. They are present everywhere, particularly when we operate on an infected urinary tract of a very old, enfeebled and emaciated individual. The danger is not so much from hemorrhage, which can be controlled, but from infection and from the anesthetic. If these conditions can be overcome by the method advocated by Dr. Belfield, and I have no doubt but that he knows what he is talking about, then it opens up a field and furnishes very good prospects for a certain type of patients who are in a badly infected condition, and who perhaps are not fit subjects for the ordinary prostatectomy, be it suprapubic or perineal, and who, at the same time, are not so far advanced in years as to require another and less serious operation. I have in mind the Bottini operation, which is performed without a general anesthetic, but which, as I pointed out several years ago at the meeting of the American Urological Association in Saratoga, in many cases affords but a temporary relief, because of the relative frequent recurrences I had observed, and which, therefore, I would advise to reserve for old men only, whose lease of life may be counted only by months, and yet require relief, even if only temporary, from the serious troubles of catheter life. The danger of leakage of urine and infection is overcome by Dr. Belfield's modified suprapubic method, by the immobilization of the abdominal muscles and by healthy granulations being formed before the bladder is opened at the second operation. Of course, the same thing occurs in the Bottini operation, because the cautery blade establishes a very deep eschar, protecting the wound surface for days, until by the formation of granulations Nature's safeguard is completed. I have heard of bad cases of urinary infiltration and infection by the perineal route perhaps as often as by the suprapubic. Verhogen found, in 700 cases of perineal prostatectomy, a mortality of 7 per cent., and in the same number of cases of suprapubic prostatectomy a mortality of 10 per cent. He did not say whether the latter cases included recent operations only, or also those of a time when the technic of suprapubic cystotomy and drainage was not so improved as in recent years.

Other unpleasant occurrences and sequelæ mentioned are incontinence of the urine and the formation of fistula. Statistics show that this condition occurs much more frequently after perineal section than after suprapubic operation. Fistula following the suprapubic operation will often be found due to a urethral stricture, which was present and overlooked at the time of the operation, and can be remedied. It may be due to a faulty technic in anchoring the bladder to the abdominal muscles, which can be avoided. It may be due to leaving certain sutures *in situ* too long. The fistulæ observed in perineal operation are very stubborn, and are caused, as I have found by inquiry among other surgeons, by extensive destruction of tissue, followed by much cicatrization, and are not easily amenable to repair. Verhogen saw fistulæ four times in twenty-one of his own perineal prostatectomies, or about 20 per cent. As to the time consumed in doing either operation, I will say that I have done both perineal and suprapubic prostatectomies, that I have seen many of them performed by the most rapid surgeons, and I believe the ten-minute operations to be so rare that they are almost mythical. The suprapubic operation can be performed by a skilled surgeon in from twenty to thirty minutes from the time of the skin incision until

the lobes are enucleated and the incision closed. Even if it should take longer, as it sometimes does in either route, there should not be much danger under the anesthetic recommended by Dr. Belfield. Another thing which has very rarely been mentioned is the condition of the tissues surrounding the prostate. In suprapubic cystotomy we rarely see a pericystitis that interferes with the rapid performance of the operation from above. Prostatitis and periprostatitis, which are now generally recognized as the chief cause of prostatic enlargement, produce almost inseparable attachments between the rectum and the gland, so that it is very difficult and sometimes impossible to open up the space between the rectum and the prostate without serious damage to these tissue, even by Proust's method, erroneously called Young's unbloody route. Stones have been left in the bladder cavity in suprapubic and perineal prostatectomies, more frequently in the latter. If lodged in a diverticulum with a small opening, they may escape detection in a collapsed bladder from above or below. If stones lying free in the bladder are left behind in a perineal operation it is the fault of the surgeon who does not avail himself of the service of the cystoscope before the operation. If in the extremely rare cases in which the enormous size of a vesical protrusion does not permit a survey of the interior of the bladder, perineal prostatectomy were performed, and incidentally a stone was overlooked, it would speak rather for the poor judgment of the surgeon than against either method. From the time of Sir Henry Thompson, we have been taught that the prostate grows first into the bladder cavity and last into the urethra, and very rarely is there only a urethral protrusion in the form of a myoma or a fibroma. Therefore, we should choose the route which offers the nearest approach to the pathologic condition, and hence it is evident that the majority of these cases be operated on either along the line of Dr. Belfield's suggestion or by Poncet's cystostomy.

Dr. A. E. Halstead:—I have been a strong advocate of the suprapubic method. My experience has been rather limited as compared with that of some other surgeons, but I have come to the conclusion that about 80 per cent. of the prostates that we meet with in practice and which demand removal can be taken out best through a suprapubic opening. The large, soft prostates, that are quite common, or those of the mixed type of prostates, next most common, are surely most easily reached through a suprapubic opening. I have followed in my operations a technic quite similar to that advocated by Dr. Belfield a number of years ago, and have had no serious difficulties, so far as removing the gland is concerned. With regard to the objections raised against the suprapubic operation, particularly the danger of hemorrhage, I do not think they are well taken, because, if we are within the capsule of the prostate, the prostatic veins are in no danger of being injured and the enucleation can be made with practically no loss of blood. In the second place, drainage and the great risk of infecting the prevesical space I think is overcome if my method of operating is followed. Of course, there is a certain risk, but with a proper technic so far as draining the suprapubic area is concerned, the risk is a minimal one. In my operations I have secured perfect drainage of the bladder by siphonage without in any case having infection of the prevesical space. In cases where the bladder is badly infected, I think it is advisable to make a perineal drain; but in the few cases in which I have resorted to this drain I have been rather discouraged, and I take it that my mistake was in putting in a rubber drain and not a metal one, as advocated by Dr. Belfield. While the patient had both a suprapubic and perineal drain, the lower one usually did not work well, and I never really understood why until Dr. Belfield suggested that it is a swelling of the parts which interferes with drainage. As to the length of time consumed in the removal of the prostate, the suprapubic operation surely does not take any longer than the perineal. The actual time consumed is anywhere from two to ten minutes in removing the prostate after the bladder has been opened. The time required for getting into the bladder is from ten to fifteen

minutes, so that the entire operation can be completed in twenty minutes, and that is as short a time as any perineal operation can be performed.

Dr. Edward F. Wells:—I would like to hear an expression of opinion as to the character of cases that should now be submitted to operation. I take it that patients with enlarged prostate and vesical infection, in which infection may be higher up, demand operation. Are there cases in which the operation may be requested, that is, in cases of early catheter life, for instance, in the first or second year, with very little infection of the bladder, and no infection of the tracts above, with competent kidneys, but in which the patient is required to use the catheter five or six times a day in order to enable him to relieve the bladder? It is true the patient may be suffering from disability, but as he is not in any immediate danger, what should be done? Are we in a position to-day to advise such a patient to submit to an operation of this character, performed suprapubically or through the perineum?

Dr. Alexander Hugh Ferguson:—I did not contemplate saying anything on this subject until this morning, consequently I have not had sufficient time to look over my cases or to look over the various reports I have received from patients on whom I have operated. But I have jotted down a few thoughts. I prefer the perineal route. I have had some experience, not very extensive, with the suprapubic route, before I began to do prostatectomy through the perineum. The preparation of the patient for either route is exactly the same. A diagnosis of obstruction can not sometimes be made until the finger is in the bladder through the perineum. Let me illustrate this: If the obstruction to the urinary flow is in one or both lateral lobes comprising the urethra laterally below the ejaculatory ducts, of you open into the bladder from above you may find no elevation of the prostate whatever, nor evidence of obstruction, but on opening through the perineum you can quickly detect the prostatic obstruction and readily remove it. There are certain prostatic conditions that are not operable from above. Freyer admitted this in one case where it was absolutely impossible for him to remove the prostate from above and he abandoned the operation. His patient died. Postmortem examination showed the cavity he was digging in was full of putrid blood clots and urine. That class belongs to the cirrhotic and often painful prostate. It is true such cases are not common, but they demand prostatectomy, and the only way in which we can successfully remove them is through the perineum. It is claimed, by the advocates of the suprapubic route, that the only way in which we can do a partial prostatectomy is suprapubically. In that they are entirely wrong. I maintain that anything that can be removed suprapubically can be removed through the perineum. Again, you have more control over hemorrhage by the perineal route than you have by the suprapubic. If there is simply a prostatic bar you can treat that better than from above by a simple prostatotomy, or biting it out with a suitable instrument. Let there be any or all deformities of the pathologic lobe, no experienced operator need hesitate to choose the perineal route for surgical treatment.

The total removal of the gland can be safely done through the perineum. Advocates of the suprapubic route remove more than the gland, they remove the prostatic urethra as well, and they have claimed that no harm comes from that. By the perineal operation we can sometimes save all the prostatic urethra, also the anterior portion of it, and can enucleate the gland from around it. I therefore claim the perineal route for total prostatectomy is more ideal and safer than the suprapubic.

It is further claimed for the suprapubic operation that there is more hemorrhage from the perineal. The greatest amount of hemorrhage I have had was in a case operated on suprapubically, where I left a clamp on for twenty-four hours and nearly lost my patient. It stands to reason that when you go through the bladder twice instead of once more bleeding occurs, let alone a consideration of site and relationship of the vesical venous plexus. It has been said by one distinguished American surgeon that the prostate is outside of the vesical cavity, just as is the appendix outside of the peritoneal cavity. There is

a great deal of difference, for the prostate is so much outside of the vesical cavity that the bladder never surrounds it. You can not say this of the appendix.

Siphon drainage of the bladder or drainage uphill is never completely successful. It is unnecessary to discuss this subject from the viewpoint of the surgeon. Drainage from the most dependent part is always the best in any part of the body. Rectal fistula takes place sometimes, but it is due to roughness or mistake on part of the operator. I have not had a urinary fistula as a complication in but one of my cases in which there was a stone in the bladder, with prolonged suppuration. In cases of long-continued suppuration of the bladder, in which a perineal prostatectomy is performed, a urinary fistula is likely to follow and remain until the cessation of suppuration.

A diverticulum with or without the presence of a stone may be present. A suprapubic operation on a case with diverticula practically prevents us from safely dealing with them afterward by abdominal section, especially when a fistula is present. In two cases of tuberculosis of the prostate operated on, in one a fistula followed. I think probably there would have been a fistula in this case if the operation had been done suprapubically. I remember one case in Texas in which a suprapubic operation was performed for the removal of a large stone behind an enlarged prostate and urinary fistula resulting. The prostate was fully as large as my closed fist, and it projected until it almost touched the anterior portion of the vesical wall, where it was visible through the fistula and easily felt with the finger. I removed it through the perineum with less traumatism than I could have done suprapubically. I can not conceive of there being any more chance for infection from the perineal operation than from the suprapubic. I recall one case that was operated on by another surgeon three years ago suprapubically. Following the removal of the prostate by this route, the man had a stricture at the neck of the bladder which would only admit a filiform bougie. When I saw him he was in extremis; there was infection of the kidneys. With difficulty I dilated the stricture and drained the bladder. The patient died inside of forty-eight hours. A postmortem examination demonstrated that he had an annular stricture at the neck of the bladder which followed the suprapubic operation. Strictures from the perineal operation are extremely rare. I have had one case in a physician in which the stricture formed inside of six weeks. I did a perineal section, and then by paying attention for a short time to keeping the vesical neck open he was cured. The mortality is from greater from the suprapubic than perineal operation. I think the mortality from the perineal route is larger than it ought to be, because surgeons who do the perineal operation undertake to operate on cases that the suprapubic men leave alone.

Dr. William Fuller:—I would like to say a word or two with reference to this subject, although I regret that I am not able to give an opinion regarding the respective merits of the perineal and suprapubic operations, as I have had but little or no experience with the latter method. It seems to me that nothing could be more desirable than perineal prostatectomy, as practiced and recommended by Dr. Ferguson. It is the quickest, safest and the best way of removing the enlarged prostate gland. There is one point, however, mentioned by Dr. Ferguson with reference to this operation, and which I have heard him mention before, that I could never quite understand. He says that in the perineal route he can remove the prostate gland without injuring the prostatic urethra. In my own cases I have not been able to do this. From the cadaver I have repeatedly removed the prostate gland, including the prostatic urethra, the bladder, the rectum, the lower end of the ureters and all the peritoneum covering these structures, and have never been able to dissect the prostate away from the other structures mentioned without doing great damage to the prostatic urethra. Dr. Ferguson may be able to do this, as he has just stated, and I bring it up for the purpose of having him explain how it is done.

Dr. Belfield (closing the discussion):—As Dr. Andrews has aptly said, the

operative removal of the hypertrophied prostate is undergoing evolution, and the process is not yet complete. It began here in Chicago nineteen years ago with suprapubic prostatectomy; its progress was interrupted by the castration diversion and the Bottini ghost-walk, but was resumed in the form of perineal prostatectomy six or seven years ago, thanks especially to Prout and Albarran in France, Ferguson and Murphy in America. One of the best results of the perineal operation is that it has disclosed to general surgeons the fact that prostatic hypertrophy is but one of several diseases to which the senile prostate is prone; and that prostatectomy should not be made without a preliminary differentiation between the cases that probably will, and those that certainly will not, benefit by the operation. No more potent argument for this could be furnished than the facts that less than half the prostatectomies heretofore performed seem to have cured the patients of their urinary difficulties; that even skilled surgeons have endeavored to enucleate small fibrous prostates; and that less skilled surgeons have performed prostatectomy on subjects whose bladder symptoms were caused by locomotor ataxia or even vesical calculi.

Perineal prostatectomy has been a valuable lesson in prostatic surgery; but even its creator, the French school, is looking for something better, something that will not leave 8 per cent. with permanent fistulæ, 3 per cent. with permanent incontinence and many others with a mass of cicatricial tissue compressing the deep urethra; in short, toward suprapubic prostatectomy as practiced by Freyer. Dr. Ferguson has been fortunate in escaping these distressing results of the perineal operation; as I have recently observed six cases of fistula and one of permanent incontinence following this operation performed by others, it would seem that these sequelæ are not rare. Freyer's failure to remove a fibrous prostate through the suprapubic incision is not, as Dr. Ferguson intimates, an argument against this operation; nor would I argue that Albarran's three failures to remove such prostates through the perineal incision should condemn that operation. All such experiences merely emphasize the necessity of recognizing the varieties of prostatic obstruction. The argument that the prostate, because extravesical, should not be approached through the bladder, seems scarcely convincing to those who usually approach the extraperitoneal appendix through the peritoneal sac. That an expert surgeon may make a perineal prostatectomy without discovering a stone of good size in a bladder diverticulum, has been brought to my attention in three cases. This could hardly have happened had operator's finger swept the entire bladder through a suprapubic incision.

Dr. Wells' question regarding the indications for prostatectomy must be answered in each individual case. In general, acute vesical infection must be reduced by urotropin, the retained catheter, etc., before operation.

The perineal operation has been thoroughly tried and found seriously wanting; we are looking for something better.

A regular meeting was held Dec. 6, 1905, with the President, Dr. Charles S. Bacon, in the Chair. Dr. William J. Mayo of Rochester, Minn., read a paper, by invitation, entitled "Radical Removal of Cancer of the Stomach," which was discussed by Drs. A. J. Ochsner, Arthur Dean Bevan, E. Wyllys Andrews, Alex Hugh Ferguson, Fenton B. Turck, Frank Billings and William J. Mayo. Dr. Frank S. Churchill followed with a paper on "The Diagnostic Value of the Leucocyte Formula in Pertussis." Dr. E. C. Riebel read a paper on "Hyperalgetic Zones in Gunshots of the Head."

THE RADICAL REMOVAL OF CANCER OF THE STOMACH.*

W. J. Mayo, A.M., M.D., and C. H. Mayo, A.M., M.D.
Surgeons to St. Mary's Hospital.
ROCHESTER, MINN.

(Abstract.)

Cancer of the stomach has been a neglected field. To a large extent it has been treated by the medical men with a necessary mortality of 100 per cent. The

* Read by W. J. Mayo, by invitation, before the Chicago Medical Society, Dec. 6, 1905

high mortality of radical operations and the difficulties of early diagnosis have been very discouraging. Since 1900 there has been great improvement in technic, which has markedly reduced the death rate, so that removal of the pyloric end of the stomach, which is the seat of cancer in nearly 80 per cent. of the cases, can be performed in the operable case with a mortality of 10 per cent. or less. Delayed operations in which the expectation is palliation rather than cure, will, however, continue to give a high death rate, due to cachexia, hemorrhage and starvation. Even in these cases, if the operation is possible, the results are vastly superior to gastroenterostomy, as return does not take place, as a rule, until a year or a year and a half has elapsed, while the mechanical function is usually maintained to the last. Gastroenterostomy gives nearly as high a mortality and an average prolongation of life less than five months. The early diagnosis can not often be made with exactness, and exploratory incision of the doubtful case is absolutely necessary to determine the facts. The clinical signs and symptoms are of greater value than the laboratory tests in the early stages, but no means of exact diagnosis should be neglected and the case should be judged on its merits as a whole rather than upon any one or two symptoms. Cancer developing on an old ulcer is very frequent. Our most favorable cases have been those operated upon for supposed ulcer in which malignant degeneration has been found.

The growing frequency of operative interference for benign disease will have a great influence in developing better means of differentiation. In considering operation, the extent of the growth, its movability and glandular involvement should be noted on exploration. By the early tying of four blood vessels, the operation is rendered bloodless. All of the lesser curvature must be removed in every case, in order to secure the lymphatics of this region. On the greater curvature the lymphatic circulation is from left to right and the receiving glands are on the right half of the greater curvature, so that a larger proportion of this part of the stomach can be safely saved. This greatly aids the restoration of the gastrointestinal canal.

We have operated upon 321 cases of cancer of the stomach. Ninety-four resections of the pyloric end of the stomach were done, with 14 deaths, or 15 per cent. In 62 cases traced, 15 were operated upon too recently to be of value, 6 failed to live six months, 41 lived from six months to a year, 27 are now alive; 20 lived from one to two years, 13 now alive; 12 lived from two to three years, 9 now alive; 5 lived from three to four years, 4 now alive; 1 lived five years. Thus we see that 5 cases lived over three years, 1 dying in three years and five months from recurrence in the liver. As but 17 who survived the operation were operated upon more than three years ago, we have 29 per cent. living three years, a showing which compares favorably with the operative results for cancer in other parts of the body.

In 139 cases of gastroenterostomy the death rate was 15 per cent., the average prolongation of life being less than five months. In 17 gastrostomies, the mortality was 17.6 per cent. Number of explorations, finding hopeless gastric carcinoma, 71, with 1 death in the hospital.

DISCUSSION.

Dr. A. J. Ochsner:—Everyone, both in this country and practically everywhere else, who has taken an active part in the treatment of patients suffering from carcinoma of the stomach, knows of the help which has come to him through the work done by Dr. Mayo. This help has come in two ways: First, after having seen, studied and operated on so large a number of cases of carcinoma of the stomach, he has been able to show the profession what is to be found in a given case. He has cleared up the living pathology of carcinoma of the stomach. The work that Dr. Mayo, Mikulicz, Krönlein, Czerny and Robson have done has shown that the fear surgeons once had of the operation was to a very large extent unwarranted. The high mortality following operations for carcinoma of the stomach, in the early days, was due to conditions which no longer exist to a

very great extent, since the methods have been improved by these men. The mortality, primarily, comes from the fact that many of these patients can not resist any operation well, and there is that mortality which comes after operation upon the patients with a slight amount of resistance; but aside from that, a large proportion of the mortality came from the fact that a great number of useless things were done during these operations. As Dr. Mayo has said this evening, there are four small groups of blood vessels, which can be controlled without any difficulty, to be disposed of in operating upon the stomach. They are so situated that they can be approached as easily as in performing a hysterectomy. These blood vessels can be easily ligated, and then we have a bloodless operation. A large portion of the mortality came from secondary complications of the lungs, from pneumonia. This was undoubtedly due, to a large extent, to unnecessary traumatism and consequent infection along the esophagus. That has been disposed of by the simplification of the operation. Again, Dr. Mayo's surgery of the stomach has taught us how to relieve many cases of chronic ulcer, which otherwise would have become cancerous, and has placed the surgeon in a position in which he can reasonably approach cancer cases, at a time when their successful treatment is a comparatively simple matter. The fact that, in non-surgical treatment of tnese cases, there is a mortality of 100 per cent., shows that every case that is saved by surgical means is just that much clear gain; and every surgeon with a considerable experience in treating carcinoma of the stomach has had some patients who are alive to-day and who would be dead if it were not for operation.

The element of shock to which Dr. Mayo has referred is one of the causes of the high mortality, but it has been reduced very materially by the simplification of the operation. Infection, which we dreaded so much ten years ago, has been eliminated, because it is one of the operations which can be performed without infection as easily as any operation in the whole range of surgery. Recurrence depends very largely upon the anatomic conditions of which Dr. Mayo has spoken. When we compare the anatomic conditions in early cancer of the stomach with those in early cancer in other portions of the body, we see that they are relatively favorable, and what we must do is to advocate and perform an early operation so as to approach the condition while it is still favorable.

Dr. Mayo has spoken of the advisability of surgical consultation in these cases. I remember very well many cases in years gone by in which a surgical consultation was quite as useless as any other consultation, because we did not have the courage to operate on these cases; because we knew very little about the facts that should have been known; we had very little or no practical experience, and it is this enormous experience of Dr. Mayo's that has helped us in this matter, so that I believe the profession here, as elsewhere, is greatly indebted to him for this work.

Dr. Arthur Dean Bevan:—I am so much in sympathy with the presentation that Dr. Mayo has made of this subject that I hardly feel like taking up the time in discussing it, because I think this discussion might better be continued by the medical men here this evening. Surgeons are pretty unanimous in accepting the view presented by Dr. Mayo. It has now been demonstrated that carcinoma of the stomach, like carcinoma in almost every region of the body, if not in all, is to be regarded to-day as a surgical disease. I think, too, that the modern work of the last five years has been sufficiently encouraging to urge us on to more frequent operating than has heretofore been attempted.

The question that principally concerns us to-day is one of diagnosis. The question is whether in an individual case the evidence is sufficiently clear to warrant turning the case over to a surgeon. I am rather inclined to believe that medical men generally accept the views Dr. Mayo has presented. I feel, however, that they do not have sufficient confidence in the present means of early diagnosis to warrant them in turning patients over to surgeons for an exploratory operation on the ground that these patients probably have carcinoma. It is a rather fine line to draw; that is, a line that must be drawn by scientific medical men. When

does the evidence warrant an exploratory operation? And most of these operations are exploratory; that is, the cases which hold out the greatest hope are usually the exploratory ones.

I want to thank Dr. Mayo for his very instructive paper and to give way to some of the medical men who, I am sure, will add more interest to this discussion.

Dr. E. Wyllys Andrews: A few years ago we heard in this society a pessimistic paper from one of our surgeons on the subject of the radical treatment of carcinoma ventriculi, based on the idea that the arrangement of the glandular system was such that every case of carcinoma of the stomach was doomed to regional infection, and hence hopeless. But it seems that a new face has been put upon the matter by American surgeons. The justification for the radical, in preference to the palliative operation, is based upon the results obtained and the relatively low mortality of pylorectomy, compared with gastroenterostomy. I do not believe, however, that the time will ever come when palliative operations will be wholly abandoned. No amount of argument will convince me to the contrary, when I have seen patients whose lives were prolonged four and six months, and even one and two years, by such operations. I think the question of the advisability of prolonging human life is not at all a medical, moral or humanitarian one, for the patient himself to decide. We might as well say, "Never do a colostomy to relieve an obstructed rectum," as to say we should never perform gastroenterostomy to improve the nutrition of the patient and to prolong life in a case of obstructed pylorus. Still, the pylorectomy is also a gastroenterostomy with all its advantages. Most of those who have discouraged radical interference have never seem Dr. Mayo do a pylorectomy, and they have something yet to learn. Dr. Mayo has evolved a method, as Dr. Ochsner has just pointed out, which is practically an aseptic operation. The vessels are tied in such a way that the field of operation is bloodless; the glands are removed radically, with the gastrocolic ligament; the stomach is clamped, so that there is not the slightest leakage as the dissection is being made. A running, not an interrupted, stitch is used, rapidly closing the cut-off end, which is thoroughly sterilized with actual cautery; the whole end is inverted by rapid suture work, so that the operation involves scarcely more exposure of the mucosa than an inversion operation on the appendix; the two cut-off viscera are anastomosed to each other, while the whole field is surrounded by pads, so that not a drop of stomach contents escapes into the peritoneal cavity. In short, the operation, as he does it, is temporarily almost extraperitoneal. This sort of work is justified by the results obtained; it puts a new face on the matter altogether. When radical interference can show anything approaching the low mortality that has followed some of the methods of gastroenterostomy, it must be the operation of preference in all cases.

Dr. Alexander Hugh Ferguson:—There is not very much that I can add to the discussion on carcinoma of the stomach. I can do one thing, however, and that is to support Dr. Mayo and other surgeons in the position they have taken to-night on this subject. Dr. Mayo reported 500 gastroenterostomies before the American Surgical Association in July last, and as far as I am aware it is the largest number of cases from any one surgical clinic in the world. Gastrojejunostomy was performed in 421 cases, in 114 of which there was malignant disease. I quote this simply to show with what authority Dr. Mayo can speak on this subject. What he has said with regard to early operation in cases of cancer of the stomach should be taken to heart by every practitioner of medicine. To-night he reports a lamentable series of 71 cases of exploration, for which he could do nothing whatever except to tell them to go home, and not to tell them that they were going to die.

In the last two days I looked up 21 cases that I have had in the last three years, in which I simply opened the abdomen and could do nothing whatever for the benefit of these patients on account of extension of the disease. Those are the cases that come to us with a positive diagnosis. I am frank to admit that

in every case, with the exception of one, in which I opened the abdomen, there was a positive diagnosis of carcinoma of the stomach, and no fool could err in that regard. What we want is to get these patients earlier. I do not know how to make a diagnosis of carcinoma of the stomach so early that a patient is safe after a radical operation. I have been fortunate enough to operate upon one case that has been apparently cured by a pylorectomy, that is, the total removal of the pylorus and the cancer-bearing area. It was an early diagnosis and operation, because there was early pyloric obstruction. It would be a fortunate thing for the sufferers from carcinoma of the stomach if obstruction at the pylorus were the first symptom of their disease; then 95 per cent. of them would be saved from an untimely death. That case was, I believe, the first pylorectomy performed in Canada. It was done twelve years ago, and the man is alive and well to-day. I placed a Murphy button behind the stomach, connecting it with the end of the duodenum; nine years after this operation he had obstruction at the seat of the gastroenterostomy. Then a posterior gastrojejunostomy was performed by a surgeon in Victoria, B. C., and now the patient is well.

Dr. Fenton B. Turck:—The physician must ever be grateful to the surgeon for restoring a certain number of cases of carcinoma of the stomach, which are incurable by any medical means. I think we all agree as to that; but further, we owe much for the knowledge we obtain whereby diagnosis is made more clear and exact. The facts obtained will encourage us to attempt to differentiate more clearly between carcinoma of the stomach and that which is not carcinoma. There is no text-book analysis or other methods of diagnosis upon which we can act with any degree of certainty. There is no group of symptoms that represents carcinoma of the stomach, that can be found early enough, distinct from other conditions, in which carcinoma does not exist. Therefore, the impossibility of making an early diagnosis with certainty. If we go into the operating room of the surgeon and see him operate on patients we have previously examined, we will learn much that will guide us in our diagnosis and in our advice to patients. Personally, I feel I have gained considerably from association with surgeons in my own cases. The keynote of this discussion is the question of diagnosis—not simply the technical part of operative procedures, but the importance of determining whether a given suspected case may be carcinoma or not. If we take a certain group of conditions and symptoms where there may be a carcinoma or a benign obstruction, in either case one is justified at once in placing the case in the hands of the surgeon. If there is doubt in the beginning whether the condition is one of stenosis of the pylorus or simple atony of the stomach, this may be more clearly differentiated by appropriate treatment adjusted to the particular case. If under such special treatment the patient does not show prompt recovery, as experience has proved, then I would not hesitate to advise immediate exploratory incision. I have had many cases in which these doubtful conditions have been determined by associating myself with the surgeon, and not only doubtful diagnosis cleared up, but, by prompt and timely operations, the lives of some patients saved and others prolonged.

Dr. Frank Billings:—I am very glad to have been present to-night and to have heard Dr. Mayo's paper. I have not heard anything new, because I have heard it before in conversations with Dr. Mayo, and I knew what his views were in regard to this subject. The important points he brought out were, first, that the non-operative treatment of cancer of the stomach has 100 per cent. mortality. That is not anything new. Second, the operative treatment of cancer of the stomach has so improved in technic that the mortality of 60 or more per cent. many years ago has now been reduced to 10 per cent. or less. That puts an entirely different aspect upon the relations of the surgeon to diseases of the stomach. Third, he touched upon the diagnosis. Fourth, he touched upon surgical palliative treatment.

As to operative treatment, it is the only treatment, except palliative, that the physician can give. There is not any medical treatment, except that of trying to relieve the pain of a patient who has cancer of the stomach. Cancer of the

stomach, if it is not relieved beyond mere palliation by drugs, is a surgical disease. As to the diagnosis, we must all agree with what Dr. Mayo has said about it. There is nothing exact in our present methods, either clinical or laboratory. A good many findings in the laboratory have in the past been considered important, but in the light of our present-day knowledge they are not so considered. A few years ago we looked upon the chemical conditions of the stomach contents as important in the diagnosis, when, in fact, the chemical reactions of the stomach contents are of relatively small importance. The motility of the stomach is an important factor in separating medical from surgical cases. When the motility of the stomach is disturbed and stagnation occurs, it is either a medical or surgical case. If it turns out to be a case of pyloric stenosis, it is surgical. If it turns out to be a case of diminished motility of the stomach, with a large pyloric orifice, it is usually medical. It may be at any time a surgical case, but it is usually medical. The diagnostic methods of the laboratory help very materially in clearing that up. A great mistake in the past has been made in depending upon chemical methods and in keeping our patients for a long time under observation, when finally the chemical results were practically of no value.

As to palliative (surgical) treatment, I am very glad to have heard Dr. Mayo say what he did. I have had some experience with patients suffering from cancer of the stomach. I have had many patients upon whom gastroenterostomy has been performed. I have seen patients live for more than a year after it, they have been relieved of the stagnation, they have been made comfortable, they have gained greatly in weight, in general nutrition, and were happy for the time-being; but they are few in number as compared with the greater number only partially relieved, and, as Dr. Mayo has said, the judge pronounced death after four or five months of a miserable existence. Right here I think the medical man has something to say, for the surgeon, after he has performed gastroenterostomy, does not take care of the patient. We medical men have to ease these patients down to the grave. I agree with what Dr. Andrews has said, that the individual patient should have his choice. Well and good. Let him understand that, at best, if his case is not operable or suitable for radical removal, it means to him only prolongation of a miserable existence, and if he chooses to take it, let him have it. I have three patients on my hands to-day who are dying from carcinoma, and they have said to me more than once, "Why did you let me have that operation?" Dr. Mayo has thrown much light upon palliative operations, not gastroenterostomy, but pylorectomy, with the removal of as many secondarily infected glands as possible. With this form of operation on the stomach, drainage is established and will continue until the death of the patient, and life is thereby undoubtedly longer prolonged than it would be by a gastroenterostomy.

Dr. Ochsner has used a word which I think is inappropriate, and I want to beg of him and of all surgeons not to use it again, namely, when he spoke of operating in the *precancerous* stage of ulcer. Why not say operate for the preperforative stage of ulcer? Why not operate for the prehemorrhagic stage of ulcer? I fully agree with what Dr. Mayo has said in reference to the interpretation of the clinical evidence by his medical colleague, Dr. Graham, who found in his histories of carcinoma 50 per cent. of cases of chronic ulcer of the stomach. Dr. Mayo has associated with him a pathologist, who is able to throw out certain cases where histologic examination does not prove cancer. I believe what he says and in the work he has done; but I do not believe that a fear of cancer is the reason given for operation. He operates for chronic ulcer of the stomach for the reason that there may be conditions present which will interfere with the healing of that ulcer; it may be a soil upon which cancer will grow. I believe, however, many men would be opposed to operating for a precancerous condition. Would you cut off a woman's breast simply because she has an inflamed milk gland, thinking that it was the precancerous stage? Understand me, I am not finding fault. Dr. Ochsner knows what I mean. I do not like the term precancerous; it is a wrong one to use, and I hope he will not use it again.

Finally, I wish to reiterate what I have said, that carcinoma is a surgical disease, and that with the help of the surgeon we can now turn our cases over to him. I am willing to advise my patients to have an exploratory laparotomy made in doubtful cases; and yet I have heard surgeons say, more than once, that we should never perform a laparotomy for diagnostic purposes. Now that the technic of the operation for cancer of the stomach has been improved so much, so that the mortality, according to Dr. Mayo's figures, may be less than 10 per cent., we can turn over our patients to surgeons without the danger of their being killed on the table. But how many surgeons will do these operations? I suppose all of those here to-night. The medical man has a great responsibility in these cases, beyond the mere fact of safeguarding the life of his patients. He is the one to say what shall be done, and who shall do it. Dr. Mayo has traveled to Europe and to the leading medical centers of this country many times, in order to perfect the technic of this operation, and consequently his mortality from operations upon the stomach is now less than that of most surgeons.

Dr. A. J. Ochsner:—I wish to repeat what I said a moment ago with reference to the precancerous stage of ulcer of the stomach. There is a condition of the stomach ulcer, in which it is impossible to demonstrate the presence of carcinoma, but in which one can be practically certain that a malignant condition will occur, precisely as in tumors of the breast, which occur in women over 45 years of age. The same is true in women a few years past the menopause in whom we encounter recurrent uterine hemorrhages. These cases should be operated upon, although it may not be possible to make a positive diagnosis of cancer, because if we wait until this can be done, the patient is usually in a hopeless condition. There are cases in which one portion of an ulcer has been infected with carcinoma, while another portion is still a simple ulcer, as has been shown by Professor Fütterer. It is in these cases in which medical treatment has failed in which an operation will be of the greatest benefit.

Dr. Frank Billings:—Dr. Ochsner did not understand me. I did not discourage operating for ulcer of the stomach. My whole argument was against the use of the word precancerous. Does he use the word precancerous as applied to tumors of the breast? Does Dr. Ochsner use the word precancerous as applied to the removal of the appendix, when in only a few cases this organ becomes cancerous? Does he use the word precancerous as applied to operations upon the gall bladder, when fully 8 per cent. of the cases become carcinomatous?

Dr. Ochsner:—We do, as applied to the breast.

Dr. Billings:—You would not call it precancerous if you removed a benign tumor from the breast, nor would you call it the precancerous stage. The only thing I urge is that you refrain from using the miserable word precancerous.

Dr. Carl Beck:—This controversy between Dr. Ochsner and Dr. Billings over the term "precancerous stage" is important because it touches upon a point in surgical pathology. There is really a stage in which a common ulcer and a carcinoma can not be distinguished, even under the microscope, and I think that is the stage to which Dr. Ochsner refers and which he has called precancerous. The use of the term precancerous, in this sense, in surgical pathology, is perfectly legitimate. It has been employed for a long time. It shows that a pathologic condition exists which excites suspicion, that the cells break through the basement membrane of the epidermoidal tissue, that they break through the basement membrane of the stomach, and this is what is called the precancerous stage. During this period operations yield the best result. With reference to Dr. Mayo's paper, it has opened up two new and important phases, one for the general practitioner and one for the surgeon. The one for the general practitioner has been spoken of in detail by the different surgeons and medical men. So far as the surgeon himself is concerned, there is one important point to be considered. We have hitherto relied too much upon European authorities, refraining from radical procedures for the removal of cancer of the stomach, and we have sacrificed too many patients by making palliative operations where we should have removed cancer. This is the first time we have had a report of a large number

of cases from an American surgeon, based upon true surgical, pathologic knowledge, with good authoritative statistics, which can not be questioned in any way, where gastrectomy has been shown to be preferable to any palliative procedure. I have had an opportunity to observe a patient, upon whom I did a radical operation, a gastrectomy, five years ago for carcinoma. I had to do a secondary operation for carcinoma of the ovaries three years ago on the same patient, and during this second operation I examined carefully the stomach region and found it normal, showing that there has been an absolute cure effected in that case from the removal of the carcinoma of the stomach. The patient is now well.

Dr. Mayo (closing the discussion):—I have, on a number of occasions, talked with both Dr. Billings and Dr. Ochsner on this subject, and I can assure you, from those private conversations with them, that there is practically no difference in their attitude. It seems to be purely a question of phraseology. In the early days you will recollect the difficulty we had with regard to the diagnosis of appendicitis. Now we expect a senior medical student to be able to make a diagnosis of appendicitis, and probably we would not pass him if he were not able to do it in the average case; yet some ten years ago, even less than that, I heard papers in which this question was not only discussed, but in which it was stated that the diagnosis of appendicitis was practically impossible, in a very large percentage of patients, sufficiently early for an "early operation" to be made. We have gone through the same controversy in gall-bladder surgery. I feel confident that the near future will show us methods of making diagnoses more readily than we do now, and that, as a consequence, a considerable percentage of gastric cancers will be sent to surgeons much earlier for operation.

Dr. Billings touched upon the probability of an ulcer of the stomach degenerating into cancer, and referred to the statistics of my colleague, Dr. Graham. The favorable cases of cancer of the stomach I have had to operate upon were those in which the operations have been started with the expectation of finding ulcer, but in which cancerous degeneration was found. It was these early cases that led us to take more and more interest in the surgical side of the subject. I would expressly disclaim any superior knowledge or skill in connection with gastric surgery. I have seen the operation done in many places in this country and abroad, and I do not believe there is anything in that statement, as applied to myself. I do not claim any part of the operation as it is developed to-day. Little points have been picked up here and there in the way of technic and put together. So to speak, we have made a package of many other operators' ideas and tied them together with a string, and about all we really own is the twine. There is one other point that comes up that is very important, namely, we can not always make a pathologic diagnosis. Dr. Billings said that there are such cases and I agree. It does not make any difference to the patient if he has pyloric obstruction and is going to die from it. He has the right to be operated upon because it is the only way he can be relieved, no matter what the nature of the obstruction. It must often happen that we can not make a pathologic diagnosis, and I think any gentleman who says that we should not operate without such knowledge is in error. I do not see how it can be otherwise, because a patient may come to you having the appearance of cancer and upon exploration there may be found an ulcerated mass or even a well-formed tumor, the patient presenting cachexia, loss of blood, absence of hydrochloric acid, etc. Before operation you are confident it is carcinoma, and yet it proves to be inflammatory. Fifteen such cases were eliminated from the statistics in my paper, because, pathologically, as shown by the microscope, they did not prove to be carcinoma, but ulcer. In the statistics of Wölfler we will find long ago cases were operated on by gastroenterostomy with a supposed cure of carcinoma, the patients living many years. We must occasionally make an operation in which the pathology is not clear before we operate; it is made clear at the operating table, but we do know beforehand that a condition exists which can and must be relieved surgically.

Adjourned.

The regular meeting of the Chicago Medical Society was held on Wednesday, December 13, with the President, Dr. C. S. Bacon, in the chair. Dr. William L. Rodman of Philadelphia read a paper on "Tumors of the Breast."

BENIGN TUMORS AND CYSTS.

W. L. RODMAN, M.D.

PHILADELPHIA, PA.

(Abstract.)

Much confusion has existed in regard to the classification of benign growths of the breast and this is largely due to the fact that surgeons failed to classify them upon a strict histological basis. The multiplicity of terms applied to the growths containing both epithelium and fibrous tissues has been especially confusing. Ribbert has recently employed the term fibro-epithelial to designate all such tumors and has separated the group into two types, fibrous and epithelial, the former being sub-divided into fibroma, myxoma and sarcoma, the latter into fibro-cyst-adenoma and papillary cyst-adenoma. The adjective periductal is prefixed to each form of the fibrous type to denote its chief constituent, the transparent tissue found around the acinous ducts. The proper treatment of all these growths is removal. If small, they may be excised; if large, they are best removed by the operation known as plastic resection of the breast, which was devised by Gaillard Thomas and recently improved by Warren. In addition to cystic degeneration of sarcomata, fibro-cyst-adenoma and papillary-cyst-adenoma, which often occur, single and multiple cysts may be formed during involution of the breast. There is a normal increase of connective tissue, during the process of involution, as a result of which the ducts and acini may become compressed, so that dilatation and cyst-formation occur. This interference with normal conditions often leads to proliferation of the epithelium, which may be so profuse as to constitute malignancy. The most rational treatment is complete extirpation. I am unalterably opposed to treating them by aspiration.

Sarcoma of the breast is a comparatively rare affection, constituting not more than 5 per cent. of all mammary tumors. It usually affects young women, though it may occur at any period of life. I recently had a case in a girl aged 11. It is my belief that traumatism plays a more important rôle in its production than in other mammary tumors. The clinical diagnosis of small sarcomata may be impossible. From carcinomata, they are to be differentiated by the absence of lymphatic involvement, fixation to the skin and retromammary tissues, and retraction of the nipple. Their more rapid growth and the fact that they occur most frequently in girls, or women who have not reached middle life, may serve as points of differential diagnosis. When the stage of ulceration is reached the protrusion of the fungous sarcomatous mass will make the nature of the growth apparent. In pregnant women sarcoma of the breast pursues an exceedingly rapid and malignant course. Treatment consists in complete excision. It is always safer to clear the axilla. Of the tumors affecting the breast carcinoma is by far the most common. Recent investigation shows that it is increasing in frequency, and there is indubitable evidence that the increase is real and not merely apparent. Races formerly considered practically immune are now suffering from its ravages, notably the American negro. Moreover we are finding it more frequently in young subjects than was formerly the case. In regard to etiology little definite can be said. Much has been written about the precancerous state, the influence of age, the effect of injury, heredity, the transformation of benign into malignant growths, etc. It is a well known fact that a vast majority of cases occur in middle life. It must nevertheless be borne in mind that young women are affected more frequently than they were formerly believed to be. I have operated on five cases of cancer in the last seven years, occuring in patients aged 23, 25, 25, 27 and 28, respectively. All but one, and that in the case of the patient aged 23, were typical schirrus growths. In the Tubingen cases analyzed by Mahler the youngest patient was 26.

The exact etiological relation, if there be any, which exists between traumatism,

chronic inflammation and mammary abscess, and cancer is not known. As concerns heredity, Dallet's statistics, based on a large number of cases, show that family history of carcinoma is present in 5 to 10 per cent. of all cases. It is my belief that the tendency to minimize the predisposing influence of heredity has been carried too far. In my own experience, at least one third of the cases of cancer of the breast which I have operated on have been preceded by one or more cases of cancer, usually of the breast, in the family. A peculiar soil is inherited, and if the proper seed, it may be living agent or not, falls upon it, carcinoma may develop. Although granting the possibility of the transformation of benign into malignant growths the probability of such an occurance has no doubt been overestimated. Recent statistics also tend to show that carcinoma of the breast is more common in married women, and especially those who have borne and nursed children, than it is in single women. I can not agree with those who believe that it is equally common in the single and married, the sterile and fruitful. Certainly some consideration must be given to results derived from the examination of hundreds of recorded cases, as, for example, those of Gulike, who found that 982 patients treated in von Bergmann's clinic, 90 per cent. had borne children. To the general practitioner, who sees comparatively few cases of this disease, but who sees these few at an earlier period of their evolution than it is usually the good fortune of the surgeon to encounter them, a thorough knowledge of both subjective and objective signs is of the greatest importance, inasmuch as the life of the patient depends upon his alertness in diagnosis and his promptness in referring his case to a surgeon.

First of all, it is important to remember that the onset is usually not attended by subjective symptoms. Mammary cancer may be far advanced before it causes much suffering. It is only when the tumor attains a considerable size or compresses nerve trunks that a sense of heaviness and weight in the first instance, and of lancinating pains radiating to the arm, shoulder and back in the second, will be experienced. In regard to the exact time at which glandular involvement occurs, statistics show that palpable enlargement may be demonstrated between the eleventh and eighteenth months. Such statistics are of very little value, for the reason that glands may be diseased and yet not be perceptibly enlarged. It may be safely stated that at least 65 per cent. of all patients show signs of palpable glandular involvement when first seen by the surgeon. As this percentage decreases the percentage of cures will increase. Regarding diagnosis, if better results are to be had in the future they will be obtained by earlier rather than more extensive operations. Inability to make early diagnosis and lack of faith in the power of surgery to cure, are responsible for the general practitioner's delay in sending his cases to the surgeon. The age of the patient and the presence of a hard nodular tumor of slow and painless evolution will not always justify a positive diagnosis of carcinoma. The location of the tumor is of great significance. Malignant growths are most frequently found in the upper and outer quadrant, lower or axillary quadrant and behind the nipple. Benign tumors are always movable, distinctly encapsulated, and do not affect the skin. In doubtful cases I prepare for a complete operation, but first remove a portion of the growth and have it examined by a competent microscopist, who is present in the operating room prepared for rapid, though accurate work. In this manner a report can usually be obtained within ten minutes and if the tumor proves malignant the complete operation is performed. When operating apart from a well equipped hospital the mascroscopic appearance of the growth, its color, consistency, and particularly the presence or absence of a capsule, will usually prevent a mistake in diagnosis. All tumors removed from the mammary gland should, of course, be examined miscroscopically as soon as possible.

The prognosis depends upon the time at which operation is performed and the thoroughness with which the diseased structures are removed. Since the extensive operation practiced by Halsted, Meyer, Stiles, Keen, Lennander, myself and others have come into vogue the percentage of cases remaining free from recurrence at the end of three years has become larger. The highest percentage of such cases is 50 and as it is obtained only by those surgeons who do the complete operation

it is a conclusive argument in favor of the removal of all accessible tissue which can possibly be diseased. Volkmann's three-year limit, however, should be extended to at least five years.

As to operative mortality my statistics show less than 1 per cent. In regard to operative technic, I make my incision include the skin over the entire breast, thoroughly exposing the pectoral muscles from origin to insertion and completely uncovering the axilla. I remove the muscles from insertion to origin, as by so doing the axilla is uncovered at once, and can be cleared from above downward, thus insuring a more complete dissection, obviating the presence of a large pendulous mass containing the breast and permitting better control of hemorrhage. Warren's incision is probably the best in the majority of cases, when modified by a second inverted Y cut above as well as below, it allows a more extensive removal of the skin than would otherwise be possible. Drainage is always employed. In all my cases, movement of the arm has been fairly well preserved.

DISCUSSION.

Dr. M. L. Harris:—The very excellent work which has been done in this field by Dr. Rodman is well known to all surgeons and we are to be congratulated on having this opportunity to hear the excellent and comprehensive paper he has given us.

Many of the benign tumors of the breast are of great importance, and while this point has been touched on by Dr. Rodman, as have practically all points I will touch on, still I wish to emphasize some of them. First, in relation to the benign tumors; one of these which has been classed as a chronic interstitial mastitis with cystic formation, is of extreme importance because it is a condition which is progressive. It begins in one lobule, gradually extending until it involves the entire lobule and then other lobules, and if it persists long enough it eventually involves the whole breast. This condition is not modified by any known treatment, therefore as soon as it is recognized the lobule involved should be removed to prevent an extension of the trouble to the remainder of the breast. Another point is the early diagnosis of carcinoma. So often we hear it said that because the tumor was not painful it was not considered to be malignant. When we ask our patients what first called their attention to the growth we nearly always learn that it was discovered accidentally. Pain is almost never the initial symptom. Therefore, we should not consider pain as of any importance in the early diagnosis of carcinoma. Another point is the enlarged glands. Dr. Rodman said that in only one case did he fail to find the glands enlarged. I have yet to see that case where the axillary glands, one or more, did not contain metastases. Of late years I have made it a practice to examine all the glands removed from the axilla, and I have invariably found, in one or more, metastases. This means that the glands should never be allowed to remain, no matter how early the operation is performed. The little nodules that we occasionally see in the lymphatics of the skin is another point. It is very common to find these nodules, and they are, of course, carcinomatous. These cases are always of serious prognosis, because the metastases are so far removed from the primary nodule that they require very extensive removal of the skin of the breast and surrounding parts in order to prevent a recurrence. It is remarkable how little embarrassment there is in the function of the arm after removal of both pectoral muscles. I have removed both breasts and the muscles and everything on the front of the chest and yet had free motion preserved in the arms. It was wonderful how these patients could use their arms and how hypertrophy of the clavicular portions of the deltoid muscles replaces the lost pectoral muscles.

Dr. John B. Murphy:—I wish to express my personal appreciation of the pleasure of listening to Dr. Rodman's paper. It was in consonance with what one would expect after having read that epoch-making paper which he read on this subject before the British Medical Association. That, I believe, was the most masterly presentation of the subject that has been written up to this time. To-night he has merely touched the salient points of operative significance. The points which he makes to-night that are particularly impressive are: first, his

clean-cut classification of the lesions from their anatomic and embryologic basis; second, the relation of the operation to the pathologic condition; third, that radical operations are not to be performed on the breast merely because the patient has a "tumor" of the breast. There are tumors, and tumors, and tumors of the breast and they must be operated on guided only by the pathologic conditions present. I think this is the most important feature in his paper. The indiscriminate amputation of the breast with axillary excavations, which has been carried on for a great many years, certainly reflects no credit on the medical profession. The method of attack of cysts of the breast which he has described is a most advantageous one. The relation he emphasized between severe trauma as an etiologic factor in sarcoma and continued and repeated in mild carcinoma was also a striking point in the paper. The conservatism of his operation in carcinoma of the breast is emphasized by the enormous radical operation which he performs when it is necessary, but not regularly and habitually.

Another matter which was brought out very forcibly is the Immediate or remote manifestations in the glands. The cancer manifests itself in the glands apparently early or late in relation to the amount of connective tissue that is deposited around the first erratic basement membrane penetration by epithelial cells. How soon this is nobody knows. We do know, however, that some people offer greater resistance to cancer than others; but whether glandular metastasis occurs in a few weeks or a few months we do not know. We know that the hard variety is much slower in disseminating itself into the lymph spaces than is the soft variety, and it is some time, therefore, after the aberrant epithelial cells penetrate the basement membrane before they are transmitted to the afferent neighboring glands. The class of patients who generate considerable connective tissue at the original focus of disease also offer in the glands the same relative degree of resistance. In a soft, non-resisting breast you will find a soft, non-resisting gland. All that brings us to the practical consideration, what is an early operation for carcinoma? An early operation for carcinoma will not be determined until we determine how soon the cells are transmitted from the original penetration of the basement membrane to the first gland. What is practically an early operation is an entirely different proposition, as is shown by Dr. Rodman's results of 50 per cent. of apparent cures after three years, in the cases operated on at all early. This interpreted means that from a practical standpoint there is an early period for operation, and that early period for operation is, in the scirrhus case, a comparatively long time after the onset, while in the rapidly growing mollient case it is an extremely short time. The obligation resting on the general practitioner is to have a definite positive diagnosis made even if necessary by an exploratory mammary operation, the same as an exploratory abdominal operation, and this should be done as soon as the tumor is recognized.

Dr. Rodman, closing the discussion:—I feel that the usual courtesy and generosity of the Chicago profession has exceeded itself to-night; that you have been too kind in what you have said about my paper; nevertheless, it is pleasing to have one's views shared by the representative men of this most representative city. I am very pleased, indeed, with the discussion of my paper, and there are many points to which I would like to speak, but the hour is late.

I agree with what Dr. Harris said about the axillary glands. While I did state that I found a single case in which there was no enlargement of the glands, in another part of the paper I stated that it was a case of adenocarcinoma, a variety not so likely to be followed by early involvement of the glands. I was particularly pleased with what Dr. Harris said about the free removal of the skin. I have insisted on this being not only one of the most essential points, but the most essential point in an operation for cancer of the mammary gland. Regional recurrences occur in the skin more often than anywhere else, therefore the small elliptical incision, which too many surgeons make even at the present day, is responsible for these recurrences. Important as free removal of the muscles is, important as free axillary dissection is, both are secondary to a free

removal of the skin, and the first advance that was made was in the operation of Moore and Gross which comprised a free removal of the skin.

I fully agree with the position taken by Dr. Murphy in regard to the course of hard and of soft cancer. I said practically the same thing in my paper, but did not say it as well as he has done. I said that soft cancer may be fatal in two or three months and that hard cancer, at times, runs a comparatively benign course. That, of course, is a very important thing in the pathology of these growths. I also believe fully, as he does, that the difference between the etiology of carcinoma and sarcoma is that in sarcoma there may be one sudden act of violence or trauma, while in carcinoma it is a constant irritation. I am glad that Dr. Murphy approves of plastic resection of the breast, introduced by Warren in his oration on surgery delivered before the last meeting of the American Medical Association. I practiced it three times in the last month and it is a very satisfactory operation. I believe that we can all save mammary glands that hitherto were sacrificed. It preserves the symmetry of the breast and many women will submit to operation now knowing that the breast can be preserved and symmetry maintained, when otherwise they would not submit at all.

I hope Dr. Bevan is right when he says that statistics at the present time are, perhaps, different from what they were two decades ago when Gross and others compiled them. I hope it is true that the number of cases of cancer of the breast is decreasing, relatively, rather than increasing. I believe, though I should like to think differently, that if the old statistics showing 82 per cent. of cancer are not right they then should be raised rather than lowered. I believe the statistics are about right as presented. Of the three benign growths I saw in one mouth, two were operated on upon the same day, and it had been a year since I had seen a benign growth. I am safe in saying, I think, that I see at least ten cancers of the breast where I see one benign growth. I wish it were different, and I have tried to feel so, but my experience points the other way. The point made by Dr. Bevan as to the infiltrating nature of these tumors is one of the best made to-night. While I hold that every man should under all circumstances submit every tumor of the mammary gland to microscopic examination, still one can, when operating apart from a well appointed hospital, tell pretty well, macroscopically, the nature of the growth—whether it is benign or malignant. The infiltrating nature of the growth is most important. Add to this the presence or absence of a capsule, and supplementing this with Stiles' nitric acid test, will enable one to avoid failure in nearly every case, but one is not justified in reporting a case as cancerous until the miscroscope has been resorted to.

I fully agree with Dr. Bevan as to the question of incisions. I think that no one should hold that his incision is the only one, although we get into the habit of employing nearly the same incision. Dr. Senn has one that I like very much, but there are half a dozen incisions that are equally good. As to the enlargement of glands above the clavicle, I am sure Dr. Bevan is right when he says that there are not many cases, in which there is palpable enlargement of the glands above the clavicle, that are saved, and yet there are a few, and if there are any then we are not only warranted but it is our duty to explore that region and clear out the glands, because it does not add to the danger of the operation. Very few of us have done that in the past. It is only within the previous two years that I have been doing it with anything like regularity, and even now I do not explore the clavicle in every case; yet in five of my last six cases the supraclavicular triangle was explored, though I found enlargement in only one case. If the tumor is situated superiorly it is possible that it is drained by the chain of lymphatics spoken of by Poirier, which empty into the supraclavicular glands, and it is our duty in every such case to make the incision above the clavicle. I also agree with what Dr. Bevan said about the *x*-ray. I hold that it should be used, but only supplemental to operation. The risk of the operation is certain and definite, and the hazard of delay is indefinite and immeasurable. No one has the right to keep a tumor of the breast under the *x*-ray waiting to see how it is going to turn out. It is impossible to cure these tumors with the *x*-ray, and valuable time may be lost in running after false gods. Let us hold to that which

has been proven true and on which we can depend, and let us use the *x*-ray as supplemental to operation.

I am very glad, indeed, that Dr. Ochsner spoke of periductal sarcoma as fully as he has. The plates I showed give a good idea of what Dr. Warren classified as periductal sarcoma. Dr. Oschner has elucidated the subject so well that it would seem unnecessary for me to say anything further. I also recognize and gratefully acknowledge what has been done in demonstrating the various lymphatic channels and how they are blocked in operations on the breast. In fact, to improve operations of this character, we must appreciate fully the anatomy of the breast. Until we get rid of the old teaching that the breast is a small organ confined to a few ribs, and that a few lymphatics run from the nipple to the axilla, we will never do good work. I do not believe that I am optimistic in saying that those doing the most complete operations get 50 per cent. of ultimate cures. A few years ago we were staggered by the original publication of Halstead, where he claimed 40 per cent., but I am certain that 50 per cent. should be the minimum if these cases are sent to the surgeon as early as they should be. If you can get 80 per cent. of cures in carcinoma of the lip, why should not an operation rightly done on the mammary gland give a percentage of fifty. It seems to me conservative to claim 50 per cent., and while my own series of private cases has been small I am satisfied that unless there should be late recurrences, which I do not expect, the permanent cures will be more than 50 per cent. It is difficult, next to impossible, to have hospital cases for a sufficient length of time to make it desirable to include them in our statistics. I have therefore made no attempt to do so. All private cases have been carefully and easily traced and not a single one included that has not passed the three year limit without recurrence.

Dr. George E. Shambaugh read a paper on "The Blood Supply to the Inner Ear," which was discussed by Dr. J. Holinger, who said:—Dr. Shambaugh is the first investigator who followed in the tracks of Siebenmann in the study of the blood vessels of the labyrinth. The latter showed that the nutrition of the membranous labyrinth is independent of the nutrition of the surrounding tissues. Siebenmann based his statements on the examination of adult human ears, while Dr. Shambaugh based his arguments on the examination of labyrinths of animals in the early stage of development when the labyrinth is still in a primary cartilaginous condition. There is a great difference between the developed and the undeveloped ear and we must not extend conclusions drawn from the appearance of the ear in its earliest developmental stages on the adult human ear and draw clinical deductions therefrom. Dr. Shambaugh's work is good, and I am very glad that a member of the Chicago profession is the first in the world to work successfully in this field to any extent.

Adjourned.

A regular meeting was held Dec. 20, 1905, with the President, Dr. Charles S. Bacon, in the chair. Dr. T. J. Sullivan presented a clinical case illustrating suprapubic prostatectomy. Dr. William T. Belfield presented four cases illustrating prostatectomy. (See page 156.)

DISCUSSION.

Dr. Frederick Leusman:—I do not think the efforts of the two gentlemen should pass without some form of recognition. I regret the absence of so many of our friends who have in years gone by come before this society and reported their cases of prostatectomy done by both methods. We all know that prostatectomy has been a hobby on the part of the general surgeon, as well as the genitourinary surgeon. It has been considered the operation for the class of cases requiring it. The general surgeon and the genitourinary surgeon do not do any better than anybody else. It is human nature for us to go along stumbling and sometimes we stumble right, and sometimes we stumble wrong, and those of us who have not had the opportunity to be at the head of the Cook County Hospital and of other semi-charitable institutions, must get along as well as we can in doing these operations. We have listened to the men connected with such institutions at previous meetings in a humble, faithful and believing way, and we have been told that perineal prostatectomy is the salvation of the old fellow with prostatic

enlargement. To-night we have heard a new song, and it is a master who has sung the song. Dr. Belfield is an authority on this subject and is able to speak authoritatively. He has been doing this work for twenty years and has had a large experience in this work, and I am glad to have heard him take a conservative position. I regret that the general surgeons and the genitourinary surgeons are absent tonight. They ought to be here to relate their latest views. As to perineal prostatectomy, I have come across cases indirectly more frequently than directly that have been operated by famous surgeons with such disastrous results as Dr. Belfield mentioned. Dr. Belfield mentioned three forms of senile prostate—the sclerosed prostate, which can not be operated on; the adenomatous prostate, which can be operated on; the cancerous prostate, which ought to left alone. In regard to the suprapubic incision, we have certainly received some valuable hints. Dr. Belfield spoke of an easy way of getting into the bladder, introducing a cystoscope and seeing in there. Probably this operation will not displace suprapubic cystotomy, and for my part I do not see why it should. You simply make a little hole in the bladder large enough to introduce your finger and look at the parts. Dr. Willy Meyer of New York a few months ago was to perform two prostatectomies at the Mercy Hospital. One of these operations was made nicely, it being done suprapubically. In the other case by means of the suprapubic incision and ocular inspection he discovered cancer, thus preventing an unnecessary prostatotomy. This maneuver of Dr. Belfield with trocar, cannula and cystoscope is very ingenious, but I do not think it will take the place of the ordinary suprapubic incision and ocular inspection in many cases. I do not think that the suprapubic makes more trouble for the patient, nor do I think it takes much more time than this new device. It is largely a matter of experience. In regard to the removal of the prostate, all who have done this work understand that if the enlargement projects into the bladder the suprapubic method is the only one, and if it is a hard prostate the operation is a comparatively easy one.

The discussion was closed by Dr. Belfield.

Dr. Carl Beck presented a patient upon whom he resorted to a plastic reconstruction of the lower jaw after total excision.

PLASTIC RECONSTRUCTION OF LOWER JAW AFTER TOTAL EXCISION.

CARL BECK, M.D.
CHICAGO.

The pathological conditions which call for a total excision of a lower jaw are not common. Our literature contains only a small number of authentic cases, and Weber's table mentions twenty. Since that time a number of cases have been published. This paper deals neither with pathology nor technic of the operation, but with the question of plastic reconstruction. The consequences of the total excision of a lower jaw manifest themselves in two directions, the appearance of the face, and the function. Granted that the immediate results of a total excision were good, and that an ideal wound healing had taken place without complications, there remains a disfigurement and an impairment or total loss of function.

The lower jaw forms the firm support for the chin and for the lateral portion of the face, and when it is excised the chin retracts, and the sides of the face sink inward, and a shape of the face results which gives to the person the appearance of a typical agnathia, or congenital defect of the lower jaw. The nose and the upper jaw appear like those of an adult, while the chin looks like that of a child; the cheeks bulge out under the eyelids, and are hollow behind these projections, parrot-like, a very unsightly appearance. More important, however, are the consequences concerning the function. Muscles retract in the direction of their attachments; the lower lip is thrown out and downward, like an ectropium, and is no longer able to retain the saliva in the mouth. A constant dribbling of saliva, with disintegration, infection and foul odor is the result. It is impossible for the patient to close the mouth firmly; the movements are minimal and without force. Of course, mastication is impossible, and the speech considerably impaired. Breathing becomes a mouth-breathing, with all its consequences upon the accessory cavities of the mouth.

With the best operative result, therefore, the condition of a patient after total excision of a mandible is anything but enviable. No wonder that the surgeon hesitates before he undertakes an operation of this kind, and the indication to perform it must be a stringent, a vital one if he decides to excise a whole jaw. Theoretically, only a few conditions could call for this, and they are fortunately very rare. In malignant growths the recurrence will be very apt to shorten and mitigate such disastrous consequences, but in benign conditions we have to strive to prevent them. It was the merit of a friend surgeon, Claude Martin of Lyons, to have studied means and ways to overcome these disturbances, though he was not the first one to try it. Even in partial excision of the jaw some of those dreadful symptoms are feared, and as partial excision is more common, the preventive measures were first used and recommended for them. Claude Martin's merit lies in the fact that he recommended, to prevent these complications and bad results, the use of appliances at the time of operation to prevent retraction and to prepare the stratum of the excision for the future permanent prosthesis or plate of the dental surgeon, by using an immediate prosthesis during the operation. Of course it requires the skill and the experience of a Claude Martin to judge, and prepare beforehand, of the size, shape and form of the immediate plate or prosthesis, and the critics of his methods, who are many, complain of this difficulty, even impossibility of accomplishing the desired effect. But Claude Martin has proven by more than 150 cases, which he reported a few years ago, that he could accomplish a great deal, even ideal results. He was kind enough to send me, through my friend Dr. Carrell, two jaws which he finished as models for two of his partial resections, and I demonstrate them here as I obtained them from him. His original article on the subject, some twenty years ago, is well known to surgeons, but he has improved his method in one very important feature, viz., in the attachment of the prosthesis to the stump of the jaw with double small plates in the shape of an X, and by attachment of what he calls ailettes, small wings to prevent the lateral displacement of the jaw. Partsch of Breslau and Boennecken have made changes by using Hauseman's splints or wire supports, but it seems to me that these changes are trivial. Bardenheuer of Cologne has suggested and practiced an osteoplasty, but those who have tried such a method are not very enthusiastic about the final or even immediate result.

If we ask ourselves in how far such a Claude Martin splint may be of value and use in total excision, we may assume that done by a careful plastitician they would prove equally good. Unfortunately, I have had no chance to employ it in my case, because I did not perform this excision, nor did I think it advisable to use it when the case came under my observation for the correction, for reasons I shall give in the history of the case. But if I ever should have to do such an operation I certainly would deem Martin's splint the best method of preventing the consequences of the excision.

The case I present to you is in many respects a highly interesting one, and it has many features which are of equal importance for the general surgeon and the dentist. The young lady, a school teacher, came to me, recommended by Professor Goslee, of the Chicago College of Dental Surgery, for surgical correction of a deformity. He had tried every possible method known to him to correct it, but failed. Without going into unimportant detail, her history was as follows: She relates that she began suffering about four years ago with toothache in the region of the lower incisors. Small periosteal abscesses formed, were lanced, but left fistulæ which kept on discharging. She was under constant care of a dentist until about three years ago she became suddenly very ill, with fever, chills and a swelling of her lower jaw. A physician was called, and he incised the swelling, with the result that some pus escaped, but evidently he was not satisfied with the result of his interference, for he advised her to go to a hospital and to have more extensive operation done for her ailment. She was anesthetized, and when she awoke she was told that a thorough operation was done. The specimen removed showed that there was no indication for a total excision, though there was quite an extensive necrosis, and that the total excision was done through a mistake in the diagnosis, and ignorance of the pathologic condition. The only excuse, I think, could be that the operator thought he had to deal with a malignant growth, and

that he would extirpate as much as possible for fear of recurrence, but even a sarcoma of the middle portion of the jaw would not call for a total excision of healthy jaws, as these are. The result was that the chin fell together and inward, that deglutition movement of the jaw was impaired, and constant salivation was the result. The young lady who was so disfigured and who could not be well understood, was temporarily suspended and threatened to be dropped entirely from the list of teachers. This, and the consequent discomforts, prompted her to seek help from the dentist, and Professor Goslee tried with plates of different sorts and ingenious devices to overcome the difficulties, but no plate could be retained.

When I first saw her I intended to follow Claude Martin's plan, and by an incision to enlarge and stretch the scarred tissues, and to implant one of his splints to prepare a bed for a dental plate. But after studying the conditions and considering the fate of foreign bodies which under similar conditions I had brought into the tissues, particularly the celluloid and coutchouc plates in the nasal cavities for saddle nose, the metal tripods in depressed noses, etc., I decided in favor of another method, which proved not only successful to a certain degree in cosmetic, but above in all functional, respects. I used paraffin injections. At first I tried it in the preauricular spaces to satisfy myself of the tolerance of the tissues towards paraffin; gradually I filled the space which the jaw had filled before with paraffin by a number of injections, introducing as much as was necessary to imitate the shape of the jaw. The result was surprising. With some difficulty I could prevent the paraffin from spreading indiscriminately in the muscles of the cheeks, and forming irregular lumps, but finally I succeeded in obtaining, not an ideal, but a fair result. Fortunately the Doctor had overlooked in his excision one small strip of periosteum, which formed on one side a small spicule of bone of about one inch in length, and this little piece of bone at the base of the tongue has served very well to place against it a large lump of paraffin to bring the chin forward, so that the profile of the patient is tolerably improved. The function of the jaw, deglutition, and the speech are also improved. Movements are possible to a certain degree. She is again back teaching school. During her next vacation we shall endeavor to form a small projection within the mouth cavity by injecting paraffin under her mucous membrane, to form a ridge, on which Dr. Goslee can place a plate for the lower jaw.

In conclusion, I would say that if an absorption of paraffin should take place, it can be replaced by a single and painless and absolutely harmless injection.

DISCUSSION.

Dr. Edward H. Ochsner:—Dr. Beck is to be congratulated on the excellent result he has obtained in this case. When I saw the announcement of the subject on the program I was curious to see how he was going to solve the problem. He has certainly done it in a remarkably good way. The case brings up two very interesting subjects. One is the necessity of not doing early thorough operations for osteomyelitis of the jaw. In this case an all too thorough operation was done, and we see the terribly disfiguring result. Three years ago I saw a patient with osteomyelitis of the lower jaw who subsequently lost fully two-thirds of the lower jaw, but who, with conservative treatment, got a good result. Though he lost all the teeth of the lower jaw, he was not disfigured a particle. In osteomyelitis of the jaw one must follow the same rule that one follows in other forms of osteomyelitis. We must leave the sequestrum until sufficient new bone has formed to support the jaw. In the mouth one is tempted to disobey the rule, and it may be followed by dire consequences, as in the case exhibited to-night. The stench, which is very disagreeable to the patient and to everybody around him, is the reason why the physician in charge is constantly urged to remove the sequestrum, and one must never give in to this constant urging. The patient will oftentimes say to the physicion, "Please remove this disagreeable, fetid foreign body," but one must never give in to this constant urging until the new bone is sufficiently strong to support the tisues. In reference to the splint that Dr. Beck has exhibited there is one very serious objection to it. The vulcanized rubber is fastened to the jaw bone by wood screws. To me that is a very serious objection.

Some five years ago I had a case in which I was compelled to remove about as much of the lower jaw as is shown removed in one of the specimens which was passed around this evening. The excision was made for an osteoma and was made through the jaw at the point of the second bicuspid on the left side and the lateral incision on right side. Dr. V. Massman, a dentist, who has repeatedly done such work for us, and upon whom I again called to make the prosthesis for this case, suggested that it would be a good plan to fasten it in place by drilling two holes through the jaw on each side and passing gold rods through it to which the prosthesis could be fastened with gold nuts. Fortunately about a year previous to this I had done some experimental work on dogs and had found that whenever a bone is drilled with any form of drill a cylindrical sequestrum will form about the drill hole unless the drilling has been done under strictly aseptic conditions. Of course, in the mouth the bone can not be drilled under aseptic conditions, and in nine times out of ten this core-like sequestrum will develop and cause trouble. Dr. Massman solved the problem by fastening the prosthesis to some gold bands which he fastened to the teeth on either side of the defect. The patient has worn this apparatus with perfect comfort for over five years. He can remove it to clean it at will. It keeps the sawn ends of the lower jaw in normal relation to each other, he can masticate his food well, and anyone not acquainted with the fact that he had lost a part of his lower jaw would never know it. I should expect the wood screws, if used as shown in the model which was passed around, to get loose or to cause localized periostitis or even osteomyelitis.

The case was discussed by Drs. Gilmer, Ochsner, and the discussion closed by Dr. Beck.

Dr. E. F. Snydacker described a new plastic operation on the eyelids by means of skin flaps from the neck. The paper was discussed by Dr. Hotz, and in closing by Dr. Snydacker, who said:—

I merely wish to say that my experience with Thiersch grafts has been unfortunate. The Thiersch grafts made at the County Hospital took admirably in this very case and still constriction has gone on to an excessive degree. I am familiar with the method which Dr. Hotz advocates and for small defects of the eyelids Thiersch grafts are admirable, but these grafts shrink so much that the skin will undergo such degeneration that I have found them utterly unreliable for large defects and my experience has been also that of other ophthalmologists. Moreover, I think Dr. Hotz has entirely misinterpreted the object of this operation. I said in my paper both lids were everted and the cornea was hazy, therefore the safety of the eye was involved. The primary object of this operation was to save the eye; this could be most surely accomplished by the use of flaps. An operator who uses proper care in securing good pedicle for his flaps and in seeing that no undue tension is put on any portion of the flaps, who also employs proper asepsis in this work is practically certain that his flap operation will be successful, this can never be predicted in a grafting operation, and whether a lid is a little more or less movable is of very secondary importance where the safety of the eye is involved, especially when as you see in the case here presented it is possible by the safer means to also secure a good cosmetic result.

Dr. Charles J. Drueck read a paper entitled "Rectocolonic Feeding," which was discussed by Dr. Goldspohn and in closing by the essayist.

Dr. Albert Goldspohn:—Dr. Drueck spoke of the colon and sigmoid being chiefly engaged in the process of absorption. These parts will, however, absorb only when the quantity of fluid introduced is enough to fill the large ampulla of the rectum first and then to rise up into the sigmoid, even when the "high rectal tube" is used; because, in females at least, this tube coils up in the wide ampulla of the rectum as a rule. This can be found by exploring with a finger in the vagina when the tube is supposed to be in the sigmoid flexure. I have very frequently passed a so-called high rectal tube, as nurses often do under the sanction or direction of physicians, and after inserting my index finger in the vagina, I have demonstrated to my satisfaction that the tube was simply coiled in the ampulla of the rectum. I believe that this is the rule with these tubes.

Adjourned.

Aux Plaines District Society.

The regular monthly meeting of the Aux Plaines Branch of the Chicago Medical Society was held at the Phoenix Hospital, Maywood, Nov. 24, 1905. A letter from Dr. A. Belcham Keyes concerning "the business bureau" of the Chicago Medical Society was placed on file pending investigation as to the scope of the charter of the Society. A communication from Dr. F. X. Walls for the Council on the work of the *Journal of the American Medical Association*, elicited a unanimous vote of thanks for the excellent work of its "Council on Pharmacy and Chemistry" with reference to the proprietary remedy evil. A vote of thanks was also tendered *Collier's Weekly* for its able and efficient campaign against the "patent medicine evil." On motion the Chair appointed a committee of three on banquet, viz., Drs. Pickard, Rosenbury and Reiterman. On motion, it was decided to invite our wives to the banquet. Dr. W. F. Scott of Melrose Park read a carefully prepared paper on abdominal pain which elicited many words of commendation and a general discussion, opened by Dr. Kerr. Drs. Kettlestrings, Worthington and Kionka reported interesting cases and presented pathologic specimens. Adjourned.

ARTHUR LOEWY, *President.*
C. REITERMAN, *Secretary.*

Douglas Park District.

PRESENT STATUS OF ELECTRO-THERAPEUTICS.*

J. H. CARPENTER, M.D.
CHICAGO, ILL.

Electricity at the present time offers the medical profession a certainty in dealing with many conditions which it is not possible to obtain by any other means. The many and obvious reasons why we should adopt electricity as a valuable therapeutic measure cannot all be enumerated in this short paper. Every one can recall the wild avidity with which the profession has taken up various fads in the past few years, many of which are now almost forgotten. Some of them, like the injection of formalin in septicemia, sprang up, fungus like, in a night, sweeping over the country, and now are heard of no more. Not so with electricity. True, it has had its ups and downs, but it is steadily forging to the front and becoming more and more popular as a therapeutic measure, in spite of the unrelaxing hostility of some parts of the profession, who can see no good in anything outside of drugs or the knife. The appliances for its application have undergone many changes and improvements. One hundred years ago the most crude and primitive apparatus was used in physiological research, and at first was limited to the galvanic current, which was applied to the exposed and isolated nerve and muscle. This was later followed by the faradic current, producing relatively low rates of vibrations in the tissues, practically an electrical massage of the parts. Then followed improvements by more or less rapid strides to the modern high-frequency currents, with their millions of vibrations per second and their remarkable physiological and therapeutic effects. There can be no hard-and-fast lines drawn between the principles or the biologic effects derived from the faradic, static and high-frequency currents; all differences depend upon the strength of the current employed and the rate of its interruptions, varying from the low rate of 6,000 per minute, which will produce severe muscular contractions, to many hundreds of millions per second, at which rate the penetrating power is increased and all disagreeable symptoms disappear. A patient may take millions of volts and as high as two or three amperes with only a slight sensation of heat in the parts. Thus this and other modalities have reached a degree of development which gives it the professional respect it so justly deserves. This is shown largely by the increased manufacture and installment of improved apparatus for the various forms of current which are now to be found in all of the best equipped offices, sanatoria and colleges of to-day.

*Read at the meeting of the Douglas Park Branch of the Chicago Medical Society.

It is also a significant fact that institutions of medical learning have installed chairs of electro-therapeutics, making this branch one of the requirements for graduation. Several of the most prolific writers of this and other countries are giving their time and attention to the literature of this subject, so that to-day journals and textbooks bearing upon it are plentiful in all languages. Investigators on both sides of the Atlantic have spent time, energy and money in their untiring efforts to bring out this subject. The knowledge upon this subject to-day and the results shown in the last few years are gratifying, and in view of this there are few who can afford to ignore this rapidly increasing field of physiologic therapy, or to depend entirely upon drugging or the knife, adhering to old prejudices which have so often been a dead weight to our progress and a just cause for humiliation.

I would not, by any means, be understood as advocating any single method of physiologic therapy as a cure-all. But this is a progressive age, and there are many valuable adjuncts to other rational therapeutic methods and equally entitled to consideration and use. At the present time there are few pathologic conditions for which a favorable method of physiologic therapy can not be found. If I were called upon to decide which method of treatment I believed capable of producing the greatest results unaided, I should be obliged to decide against exclusive use of drugs.

My only desire is to cause you to consider this subject in a broad, liberal manner, giving it at all times the consideration which is legitimately its due, judging it by the results reached by that class of men who have given it proper study and are using it upon purely scientific principles. I am well aware that you are able to cite plenty of people who are willing to condemn any method of physiologic therapy, willing to assert that they have themselves tried it; but can they honestly say that they have derived any better results with any other method to which they have given no more thought? It is very noticeable that electrical apparatus is far more in evidence than a knowledge of its proper application or of the results it should be expected to produce. No wise physician would intrust to his patients the indiscriminate use of strychnia or morphin, yet many are willing to judge electricity by results obtained in this way, while others are content to purchase apparatus, learning how to operate it mechanically, but without any knowledge of its physiologic action, dosage or particular field of application. This manner of application would bring any therapeutic measure into disrepute. To convince the most skeptical of the potency of electricity and the necessity for its careful application, we have only to point to the deep x-ray burn or the electrolytic power of the galvanic current, capable of depositing drugs in the tissues, or the sedative effect of the high rate of vibration imparted to the tissues by the higher frequencies. It is not alone in the therapeutic line that advance has been made, but its diagnostic value has been especially marked since the discovery of the x-ray. I call your attention in this way because many of those who are forced to admit the great value of the ray in locating bullets or fractures are not willing to admit its physiologic or therapeutic effect. Is there any other line in which as great progress is being made? If we have made such wonderful progress in the last few years, what may we not expect in the next decade?

South Chicago Branch.

At the meeting of the South Chicago Branch, held November 13, Dr. W. R. Titzel, 10108 Avenue L, gave a report of eight cases of intussusception in infants under one year operated on within the last year. Favorable action was taken by the society in regard to the establishment of the "business bureau of the Chicago Medical Society," and the councilor, Dr. A. W. McLaughlin, was instructed to support the movement. Favorable action was also taken regarding the joint meeting of South Chicago, South Side, Southwest and Stock Yards branches. A committee, consisting of Drs. W. R. Titzel and Stephen S. Barat, was appointed to make arrangements.

CHICAGO SURGICAL SOCIETY.

A regular meeting was held Nov. 3, 1905, with the president, Dr. D. A. K. Steele, in the chair. Dr. William Hessert reported two cases of perforated gastric ulcer and exhibited the patients. These cases were presented to illustrate two different types of perforation of the stomach. One was an acute perforation in the anterior wall of the stomach, the other a chronic perforation, with perigastritis, in the posterior wall of the stomach, simulating a carcinoma.

In the discussion Dr. L. L. McArthur said that when the pendulum was swinging in favor of gastroenterostomy for every ulcer or symptom of ulcer of the stomach he felt that a word of commendation was due to Dr. Hessert for his courage in withholding gastroenterostomy under the conditions which obtained in the first case. If one followed the booklore, as now obtaining, the tendency was to simply make a puckering-string suture of the perforation and do a gastroenterostomy. To do this in a patient suffering with peritonitis of an extremely acute type entailed an added shock and risk to the patient which, in his opinion, was not always necessary, and particularly not necessary where a perforation appeared definitely in a large, single, indurated, round, perforating ulcer of the stomach. In such cases he believed the practice of Dr. Hessert to close the opening and be content with that for the time being, rather than to complicate matters by the addition of a gastroenterostomy, was the more desirable practice.

Dr. William M. Harsha mentioned a case of duodenal ulcer in a woman of sixty. She was taken with very severe, agonizing pain in the right side in the subhepatic region. She was brought to Chicago and he saw her about six days after the onset of the attack. There was a board-like rigidity of the abdomen, but it was not in the iliac region. It was limited sharply to the right hypochondrium. A diagnosis of perforated gall-bladder was made by her physician. An incision was made over the site of the gall-bladder and nearly a quart of fluid found there, circumscribed, which did not go below the colon or into the iliac fossa, but between the liver and chest wall, and was confined to that area. The anterior surface of the liver was stained by fluids. The patient was profoundly toxic and went on to a fatal termination.

Dr. A. E. Halstead exhibited skiagraphs of a case of hallux valgus before and after operating. He likewise showed the patient and mentioned the method of operating, which differed a little from the ordinary routine plan followed by surgeons in general. The first skiagraph showed the condition of the man's foot before operation and the second showed the excellent result that had been obtained after. It was an extreme case with suppuration of the bursa, with partial destruction of the head of the metatarsal bone.

Dr. Halstead also read a paper entitled "Acute Postoperative Dilatation of the Stomach Following Nephropexy." The patient presented the clinical features and termination of a typical case of acute dilatation of the stomach following fixation of a movable right kidney in an apparently otherwise healthy young woman. The clinical diagnosis was verified at autopsy.

Dr. Alexander Hugh Ferguson said he lost a patient from acute dilatation of the stomach ten years ago. The operation was performed for appendicitis between the attacks. After the anesthetic the patient was in good condition; his pulse was good, temperature normal, etc. He died on the eighth day with enlargement of the abdomen, persistent nausea, persistent vomiting and increased dullness. A postmortem examination revealed the stomach filling the abdominal cavity and protruding into the pelvis to some degree. The area of operation was normal. There was no peritonitis, no adhesion. Obstruction was found at the pylorus, and, although one could pass the ring finger through the pylorus, still it was obstructed by being acutely bent upon itself. The duodenum was not enlarged, but slightly smaller than normal. If the obstruction were between the duodenum and jejunum, then he thought there would have been dilatation of the duodenum.

The next case was one in which he removed the cecum. Vomiting and dilatation of the stomach persisted after the third day. The stomach was washed

out every three or four hours, but the man soon became tired of this and decided to lavage his own stomach, which he did by placing his head down near the floor and a pillow under his stomach. This man is alive and well to-day.

Dr. E. Wyllys Andrews said that he reported some years ago five cases of drowning in fecal vomit in cases of intestinal obstruction and discussed at that time the peculiar mechanism of the accident. He was led to infer that the two orifices of the stomach were dilated when this drowning took place, and the intestinal contents from reversed peristalsis poured through the stomach out into the throat. Only in that way could he account for the enormous quantity ejected in the fatal cases. Since he had heard Dr. Halstead's paper and the discussion he thought these cases might have been instances of acute dilatation of the stomach.

Dr. L. L. McArthur said he had learned his lesson in regard to acute dilatation of the stomach through the death of a very dear friend who had been operated on for hysterectomy. The hysterectomy was made per vaginam. The patient developed no evidence of peritonitis, but had persistent nausea, with vomiting. Cases of acute dilatation of the stomach, he believed, were always associated with rather long intervals of vomiting, then large quantities rather than frequent small quantities of fluid came away. The patient grew steadily worse, yet presenting symptoms which were to him intestinally obstructive in character. At 3 o'clock in the morning on the third day Dr. F. asked the speaker if he would not make an artificial anus to overcome a possible intestinal obstruction which might have taken place from adhesions down around the stump of the uterus, low down in the pelvis. To this he agreed. He made a left inguinal incision, found a distended organ, very much like an enormously distended small intestine, but on endeavoring to raise it he found that it corresponded to the stomach. Pulling it out, he found it had the blood vessels of the stomach, recognized it was the greater curvature of the stomach low down in the left iliac flank. Desisting from further operative interference, a stomach tube was passed and a gallon and a half of dark fluid removed. The incision was closed. They thought they had the case in hand and that, by passing a stomach tube, on future occasions they would be able to prevent recurring dilatation of the stomach. The patient had one or two more periods of rest, but the stomach refilled, shortly after which she died.

Dr. A. J. Ochsner said that some time ago he directed attention to the fact that some patients upon whom gastroenterostomy or stomach operations of any kind had been performed died as the result of acute gastric dilatation. Several deaths had occurred before they had an opportunity to make an autopsy on one of these patients. Since then they had constantly watched this possibility of acute dilatation of the stomach and had prevented it in several cases by having the patients sit up a few hours after the operation and making gastric lavage in case of any symptoms.

Dr. John L. Yates exhibited a specimen which was removed by Dr. A. J. Ochsner from a woman, aged 75, two days previously. The diagnosis before operation lay between a neoplasm and an appendiceal abscess. Operation revealed both. The mass about the appendix was palpable through the abdominal wall, and at the time of the operation it was found that the sigmoid flexure had become adherent across the abdomen. A loop of ileum was also adherent, so that the removal required the excision of the loop of adherent ileum and the loop of adherent sigmoid flexure, excision of the cecum and distal end of the ileum, invagination of the ascending colon and anastomosing the free distal end of the ileum into the upper portion of the rectum, with an end-to-end anastomosis between the severed ends of the loops of the ileum and of the sigmoid. A satisfactory microscopic examination had not yet been made, but the case was thought to be one of carcinoma of the appendix.

Dr. E. Wyllys Andrews showed a pancreatic tumor. A patient came under his care about a year ago with chylous ascites, due to a mechanical obstruction of the lymphatic system of the abdomen. He very early made out that the patient had malignant trouble, presumably of the pancreas. Thinking it might be cystic or non-malignant, a laparotomy was made, which resulted in confirming

the diagnosis of inoperable malignant growth of the head of the pancreas. The abdomen was closed, the diagnosis having been easily made by the projection of the pancreatic growth between the stomach and the diaphragm (above the stomach). This patient had chylous fluid removed about seventeen times, and within three or four months afterward died of inanition. The specimen was secured by autopsy. It showed the pathology very well. Dr. Andrews also reported a case of intussusception and exhibited a specimen which consisted of twenty-four inches of gangrenous intestine, which was the lower part of the ileum, and some living intestine attached, which was resected.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

CASE OF HYPERTROPHIC LARYNGEAL TUBERCULOSIS AND EXHIBITION OF MICROSCOPIC PREPARATIONS OF TISSUE REMOVED FROM THE LARYNX.*

JOHN EDWIN RHODES, M.D.

A. W. K. is 36 years of age, a carpenter, and married. Several years ago he had swelling in one of his knees, followed two years later by the same condition in the other knee. The effusion in these joints was withdrawn several times about five years ago and iodoform injections were used. The disease was diagnosed by Dr. Senn as tubercular. Treatment was continued for about two years, but was then discontinued, and nothing has been done for three years. Both knees are swollen still, and if he is on his feet for long periods or walks excessively he is apt to have pain. No other trouble developed until about a year ago, when he had a dry cough. This was increased somewhat during last winter, but has not been severe and has usually been accompanied with very little expectoration. Lately he has coughed some at night when lying down and complains of irritation in the larynx as causing it. He has complained at times of excessive cough and of raising a great deal, but this is not a constant symptom. Last winter he developed hoarseness, with a burning sensation in the throat which he describes as "like a live coal in the throat." This sensation has practically disappeared. He occasionally has pain in the chest. These are in both sides of the chest, but perhaps more in the upper part of the right. They are rather indefinite and not severe. There was no pain in swallowing at the beginning, nor has there been since. He became almost voiceless in January of this year, and has been speaking in a hoarse whisper since then. Breathing has not been interfered with. He has always had a good appetite and has been able to attend to his present business of a small storekeeper, regularly. He has had no feeling of weakness or malaise to any marked extent. His present weight is 146½ pounds and his normal weight was about 150. For a time during the summer he lost weight, which he has since regained. He attributed this to frequent x-ray treatments, applied to the neck, and which relieved his pain there. During this treatment he lost appetite markedly. He has had no fever, nor night sweats. Temperature has been found repeatedly 98.6°, occasionally 99°. His pulse rate has usually been from 72 to 80, occasionally 85. In fact, he has had little of the systemic disturbance we find in most cases of laryngeal tuberculosis. Typhoid fever when 25 years old is the only serious illness he ever had, but since that illness he has never been so strong as before. His father is living and well, aged 75. His mother is living, at 68, and suffers from asthma, and he has two brothers and sisters living and well. Two of the father's brothers and a sister died of consumption. His habits have always been good. His drinking is confined to a glass of beer daily, and he smokes about one cigar a day.

I have examined his chest, but have never been able to make out any abnormal physical signs. His sputum has been examined, but no bacilli have been found,

*Read at the meeting of the Chicago Laryngological and Otological Society, Dec. 5, 1905.

although it was once reported that an unsatisfactory slide was thought to show tubercle bacilli. I examined this slide later, but could find none. The sputum is not mucopurulent in character. I have had him under observation since last spring. The conditions changed little in the interval between then and the middle of September, when I made the following notes: The fauces were normal, save elongation of the uvula. The nose was free and there is some deflection of the septum. The epiglottis was then normal; the ventricular bands were much thickened, yellowish-white in color, mottled with red spots over their surface, hiding partly the vocal cords beneath; the arytenoids were slightly thickened, as was the inter-arytenoideus, and on the anterior surface of the latter on the right side a small papillary mass projected, reddish in color. The right vocal cord was pale, thickened, and only its posterior two-thirds could be seen, about one-half its width being covered by the ventricular band. The left cord was also pale, thickened, and its edge was visible under the swollen band. On phonation the posterior third of the cords and bands remained abducted, so that they did not close the glottis. The appearance of the larynx has changed somewhat lately. At present the color of the structures has lost the pale, mottled appearance to a great extent, and is redder. The appearance of the right ventricular band, which has lost its smooth and even contour, is due to the removal of a section with forceps in September. Dr. O. T. Freer very kindly stained and made sections of and examined this tissue, in which were found giant cells, lymphoid cells and numerous tubercular bacilli. Tubercle bacilli were found entangled in the stroma of the tissue and in giant cells. These sections were afterward examined at the laboratory of the University of Chicago, where the findings were confirmed and the tissue pronounced tubercular. Ulceration has not been found at any time. The tissue is an hypertrophy of tissue, and not a disintegration. Some changes in the epiglottis on the left portion of its tip have appeared lately, a thickening without ulceration. From the first examination, with the family and personal histories duly considered, tuberculosis of the larynx was suspected and a tentative diagnosis made. Usually a laryngeal tuberculosis is easily recognized, but the history of months of comparatively little change, the unimpaired nutrition of the patient, the absence of demonstrable lung disease, the non-appearance of ulceration and the local appearance of the structures of the larynx in this case made it not altogether certain until it was confirmed by the removal and examination of the tissue itself. I consider this a rare form ot hypertrophic tuberculous laryngitis.

Theisen, in his Candidate's Thesis, before the American Laryngological Association, in 1903, reports a case and reviews the scanty literature fully. He defines one class of cases in which the characteristic changes in the larynx consist of either a marked hypertrophy or hyperplasia of the tissues, or in which tumor-like formations without ulceration occur. In these cases these tissues do not break down, but ulcerations may occur, especially late in the disease. Pachydermia laryngis had to be considered principally in differential diagnosis. In the diffuse form of pachydermia laryngis we have an hypertrophy which might be extensive, but this is epithelial in character, and ulcerations are often present. Of course, there were not characteristic nodes here, as found in the common forms of pachydermia.

I have only a suggestion to make as to treatment. Might we expect benefit from a proper climate? Some cases do well under proper conditions when the nutrition is as excellent as in this patient. I should be glad if he could avail himself of favorable climatic and hygienic treatment. It has seemed to me, however, that the surgical removal of this involved tissue offers the same hope of cure, providing it is radical enough. The operation of laryngeal fissure and thorough dissection of the involved tissues, which could be accomplished in this way, might be advisable. Extirpation of the larynx would be, to my mind, too radical an operation, involving a less desirable subsequent existence and perhaps no more thorough removal of the diseased tissues.

CASE OF VICARIOUS BLEEDING FROM THE EXTERNAL AUDITORY CANAL.*

GEORGE E. SHAMBAUGH, M.D.

In July 1900, Mrs. T. consulted me on account of bleeding from her right ear. She gave her age as 25; had been married seven years; had two children, both living and well. She had never had any previous ear trouble. The bleeding from her ear began five years previous, when, several hours after a Thanksgiving dinner, she experienced a flushing of the head, accompanied by a sinking spell. At this time the right ear began to bleed freely, and continued bleeding for full half an hour, saturating a number of handkerchiefs, and followed by a decided relief in her head symptoms. Dating from this time she had experienced similar attacks of bleeding from the ear, always preceded by the feeling of fullness in the head, and occurring usually a day or two before the time for her regular menstrual flow. The bleeding from the ear did not occur every month, but often skipped one and sometimes two months. When the bleeding from the ear did occur, she always noticed that the regular flow was correspondingly diminished, and not infrequently the bleeding from the ear would take the place completely of the menstrual flow. The amount of blood discharged from the ear varied from ½ dram to ½ ounce, and occurred at intervals lasting over several days. Several times during the five years she had suffered from furuncles in the affected ear. Aside from the bleeding and the furuncles, the only thing she had noticed about the ear was the feeling as though the ear was being filled up. It was the latter sensation as much as the bleeding that led her to consult me.

On examining the ear, the canal was found to be partially obstructed by a swelling of the upper wall just inside the meatus. This swelling was smooth, covered with normal skin lining the canal, and was quite easily compressed, so that, while it was found to fill two-thirds of the opening of the canal, by a little pressure a speculum could be introduced. At the lower tip of the cone-shaped swelling was a pin-point area where the continuity of the normal skin was broken. No tenderness was experienced on pressure.

During the two years following the first examination the patient was seen a number of times, the bleeding from the ear continuing the same. The patient, in addition, often complained of periods when there was a slight watery discharge from the ear. The swelling in the meatus during the several days in the month, when the bleeding would occur, increased in size, often completely blocking the canal. On one occasion the ear was bleeding when the patient consulted me, and at that time I saw several teaspoonfuls of blood escape from the ear. The bleeding point was observed to be the point referred to above, at the tip of the nipple-like swelling. On this occasion I touched the bleeding point with crystals of chromic acid. The bleeding stopped, and since that time there have been but a few occasions when a slight bleeding from the ear has taken place. At one time, two years ago, there appeared a diffuse superficial ulceration of the canal just external to the swelling. This ulceration extended rapidly until it involved the concha of the ear, as well as the lobule. At this time Dr. Frank Montgomery examined the ulceration and pronounced it as probably luetic. The condition healed rapidly under the administration of K. I.

I had not seen the patient for the past two years until several days ago, when she consulted me because she had for the past month been experiencing considerable pain, radiating from that ear over the side of the head. She says she has had no bleeding from the ear during this period, and the only annoyance has been the occasional watery discharge. On examination of the ear, the condition is found to be practically the same as when seen in previous years, with the exception that, in addition to the nipple-like swelling of the upper wall of the canal, there is a small flat swelling crowded between this and the posterior wall of the canal. This latter is also covered with normal skin, but is slightly more reddish than the larger swelling. From the soft spongy character of the swelling,

* Read at the meeting of the Chicago Laryngological and Otological Society, Dec. 5, 1905.

its broad flat base, together with the tendency to swell up temporarily at the time of the menstrual period, I have been inclined to believe that the condition was one of angioma.

Vicarious bleeding from the external canal, though rare, is not an unknown occurrence. A few of such cases appear in the literature. Usually the bleeding points are the opening of the glands found in the upper posterior wall of the canal. Gradingo points out that a distinction should be made between bleeding from the canal, which occurs in the presence of a trauma, or a growth in the ear, and bleeding that occurs when the canal appears to be quite normal. It is this latter that Gradingo would consider as alone the true vicarious bleeding. In the case that I report here the fact that the swelling in the canal appears to be covered with normal skin and the appearance of the bleeding at the time of the menstrual flow, which it in part or completely supplants, leads me to consider this a case of true vicarious bleeding from the external canal.

A regular meeting was held Nov. 7, 1905, with Dr. William L. Ballenger in the Chair. Dr. Edwin Pynchon showed a new style of tonsil forceps, which he had found to be particularly useful and valuable. He also showed a blunt separator which he had devised. It occurred to him that in the instrument used by Hajek there were two defects. One was that the instrument proper was so short that in separating the perichondrium or the periosteum far back, it was necessary to introduce the handle into the wound. He considered this a serious defect, consequently ne had devised a blunt separator in which this feature was corrected by lengthening the blade. Furthermore, while one edge of his instrument was copied after the Hajek pattern, the rear end of the other edge was made to project so as to be used in separating from behind forward. He had found this instrument to work nicely. These two instruments are made by F. A. Hardy & Co. of Chicago.

Dr. Henry Gradle read a paper on nasal reflexes, in which he quoted instances observed by himself and others, and criticized the extravagant claims made for this topic in previous years. He emphasized, however, the fact that there are instances which can be well-established as nervous disturbances starting from irritative disease of the nose, and can be cured by removal of the latter.

DISCUSSION.

Dr. J. Gordon Wilson:—After the splendid review which Dr. Gradle has given of the whole subject, there is very little that I can say with regard to the clinical side. I wish to confine my remarks principally to the anatomic and physiologic aspects of the subject. I use the term reflex in a physiologic sense, in the sense that we have at one end an exciting organ, connected with a central part, which again is united with an executing organ. I object to the indefinite way in which the word reflex is so often used, attempting to classify under it various badly understood connections, which supposedly may exist between various diverse parts of the body, especially if pathologic changes be present in both. It is a great pity if we, in regard to this term, sever ourselves from the physiologists, because clinical medicine is becoming more scientific, and we must define our terms much more strictly than we have been doing in the past. Our knowledge of the nervous system has advanced much within the last two or three years. It has not altered substantially, but it has altered in many details when we consider the question of nasal reflexes. For instance, take up a modern text-book and look at the origin of the nerves to the nose; we are told that the nerves to the respiratory part of the nose come principally from Meckel's ganglion. As a matter of fact, no distinct nerve originates in Meckel's ganglion. The fibers which rise in the ganglion join the nerves which pass through it from the Vidian or over it from the Spheno-palatine branch of the fifth cranial nerve. We read that the Vidian nerve is formed by the Great Superficial petrosal, from the Geniculate ganglion, and by the Deep Petrosal, from the sympathetic plexus on the Internal Carotid Artery. Such a description makes no mention of the branch to the

Vidian from the Nervus Tympanicus of the ninth Cranial Nerve, an important connection, insofar that it shows the close relationship which exists between the nerves of the nasal mucous membrane and the Glossopharyngeal and through the Glossopharyngeal with the Vagus and the lower part of the respiratory tract.

The principal sensory nerves of the nose come from the Maxillary branch of the fifth Cranial Nerve. They pass out in the spheno-palatine nerve. A few fibers from these nerves end in Meckel's ganglion; a number directly arising in the ganglion join the branches and are distributed to blood vessels and glands of the nose and soft palate. The nerves from Meckel's ganglion appear to be principally connected with the vasomotor system and with the secretory system. Some of its connections undoubtedly extend beyond the nose. For example, there is one branch that goes from the ganglion to the fifth nerve, then either through the N. Zygomaticus or through the N. Ophthalmicus to the lachrymal gland.

There is here a clearly defined route by which irritation of the mucous membrane of the nose may bring on lachrymal secretion.

Discussing the physiologic aspect of the question I shall limit my remarks to the question of how reflexes may affect the respiratory tract. It is quite true that we are little conscious of the activity of nasal reflexes, but I believe they are ever at work, and that our cognizance of their activity comes most frequently when, from some pathologic condition, they are more stimulated than usual, and the attention of the higher neurons is brought to the work done by the lower neurons. It may be on account of this that so little attention has been paid to nasal reflexes. Another point is, reflexes of the nose, like all other reflexes, are to a large extent independent of the will. At the same time, we can to a certain extent influence a nasal reflex and excite its efferent fibers. Thus, if we have a slight irritation of the nose, discomforting, but not sufficient to produce the desired sneeze, we can by looking at a bright light produce that sneeze. Here an additional stimulus has purposely been added to the nasal stimulus to produce the reflex phenomena. So it would appear that additional stimulus to a sensory impulse may cause the efferent mechanism to come into play. What is the physiologic significance of nasal reflexes? We have sufficient experimental data to give us information on this point. If the nasal mucous membrane of a dog or cat be stimulated, we find there is closure of the glottis, slowing of the heart's action, slowing of respiration and dilatation of the vessels of the nose. If sufficiently strong, there may be produced sneezing and coughing. What does this mean? Surely, it indicates that there is here a mechanism for the protection of the respiratory passages from the irritants.

Last year I presented a paper before this society in which I pointed out that we are apt to forget one of the functions of the larynx, namely, the protection of the respiratory passages. Correspondingly, in the nose the nasal reflexes physiologically act to protect the respiratory passages. Nasal reflex can be produced by a variety of irritants, electrical, mechanical and chemical; but of the three the chemical is the most powerful. As Brodie demonstrated, bromine gas held before the nose of a dog will produce closure of the glottis. Coming to the interesting question of the influence of nasal disease on the production of asthma, there can be no doubt that removal of disease from various parts of the nose has produced benefit, and has, temporarily at least, stopped the paroxysms. But this does not prove that the nasal disease is the primary cause of asthma. It may be but the secondary or additional stimulus previously referred to. If you remove the secondary cause, and give the patient a better chance of being benefited you have accomplished a good deal. It has often been argued that there are some areas in the respiratory mucous membrane more irritable than others. There is no evidence from the nerve supply, or the nerve endings in any particular area, to support this view. There is one area in the septum which differs from the rest of the septum, namely, the so-called nasal tubercle. The nasal tubercle is high up on the septum, a little toward the middle posterior part. It is a ridge of thickened mucous membrane, with numerous glands, and lies in close proximity to the middle turbinate, on which it marks off the ophthalmic

part from the purely respiratory part. It has been demonstrated in animals that there is a particular area on the septum which, above all others, will produce reflex contraction of the bronchial muscles. It may be that these two areas coincide, but so far this has not been shown. In summing up, the important thing from a clinical point of view, is to stop abnormal reflexes. In animals the most effectual way is to use atropin. Chloroform and ether have the same effect.

Dr. Norval H. Pierce:—From my own clinical experience I believe that there are very few nasal reflex neuroses; can only recall two instances where asthma was really aided by opèration—in one case the removal of polypi, and rather small ones, and in the other case correcting a deflection of the nasal septum high up. Both of these cases occurred more than five years ago, and since that time I have not met with a case where the asthmas that I have encountered that have been referred to me for examination have been in any way due to intracranial disease, so far as I can ascertain. Nothing has been said about the sexual area of the nose. There was one case referred to me about a year ago, the patient being a doctor's wife, who had dysmenorrhea, was a highly neurotic, hysterical woman. I tried an experiment, after having been assured that it was the last hope of curing her dysmenorrhea. I assured her that I found indubitable evidence of nasal disease, and that, in all probability, this was the cause of her dysmenorrhea. She swallowed both the hook and bait and was only too glad when I cauterized the posterior portion of her septum on both sides. It was somewhat swollen, somewhat hyperemic, but not materially so. There was no absolute pressure. But I cauterized it, and the next menstrual period was infinitely less painful than any she had had for a long time. This continued for about three months, when she passed from under my benign influence and the dysmenorrhea returned. Now, I do not believe that the cauterization of the nasal septum had anything to do with the disappearance of the dysmenorrhea, and I believe that the majority of these cases, not even excepting asthma, that have been cured by intranasal operations—presumably cured—have been cases of hysteria, neuroses, that were influenced by suggestion. I have never seen, with the exception of the two cases I have mentioned of asthma, a well-defined case of pronounced reflex neurosis that has been cured by any intranasal operation. We have all seen facial neuralgias and neuralgias that have been out of the physiological domain, neuralgias of irradiation cured by drainage of the antrum or by the destruction of ethmoidal tissues or drainage of a sphenoid antrum. But these are, as Dr. Gradle has said, hardly reflex neuroses.

Dr. Edwin Pynchon:—There is one point that I did not observe the essayist to touch upon as a cause of asthma, namely, that condition known as posterior hypertrophy of the turbinals. I have seen pronounced cases of asthma which were promptly and permanently relieved by the removal of the posterior hypertrophy of a turbinal by the use of the hot snare. All of us in our experience in the treatment of hay fever have observed occasionally that cases are markedly benefited, or may be cured, by the removal at one time of a ridge from the septum, as mentioned by one of the speakers, and at another time by the removal of polypi or the removal of an enlarged turbinal. There is a general principle involved in the results which are obtained by different procedures in different cases, and it all hinges upon the fact that in hay fever there is always impaired ventilation and defective drainage of the attic of the nose. I never yet have seen a case of hay fever where, during the paroxysms, there was not an enlarged and boggy condition of the middle turbinal and an occlusion high up of that part of the nose. In my opinion, and so far as my observation goes, these cases of hay fever can in the interval between attacks be so treated surgically as to destroy sufficient tissue so that even during the process of swelling the opposing surfaces can not touch, and by so doing we can very materially diminish the tendency to hay fever, even if we do not cure it. Of course, it is known that in hay fever there is a combination of causes which has been described as a tripod, one feature being a defective nose, another being certain conditions which have been described as the uric acid diathesis, and still another, exposure to the exciting cause. If

the nose can be put in such a physiologic condition that air will at all times penetrate all parts of the nasal fossæ, the sinuses will then be ventilated and there will follow a marked diminution in the tendency to recurrences of attacks of hay fever.

As regards asthma, we have a different proposition, though it hinges upon the same pathologic condition. Whenever the attic of the nose is occluded so as to prevent ventilation of the sinuses and the evaporation of the nasal secretion in the high part of the nose, there is a constant trickling of secretion down the fauces to the trachea and bronchi, and the settling of this mucous secretion from the nose is the chief cause of asthma; consequently, in the same way, if the nose is so treated that those secretions which are pathologic will be diminished, and so that the normal secretion of the nose can be evaporated, we will do away with the tendency to asthma. You will understand I take this ground: when there are hypertrophic conditions in the high part of the nose, by prevention of the evaporation of the nasal secretion there is a certain amount of thickening and decomposition, so the secretion becomes irritating. There is also another feature to be remembered, and that is, when the mucous membrane or tissues in the nose become chronically hypertrophic they cease to throw out sero-mucous secretions of the same character as is normal; consequently, being of a different character, it is not so easily evaporated, and is, in fact, from the start a thickened and diseased secretion from a diseased and abnormal mucous membrane.

Dr. George E. Shambaugh:—No rhinologist to-day can look through the literature which appeared in the '80s and '90s on the subject of nasal reflexes without being astonished at the extent to which many of the rhinologists at that time allowed themselves to go in attributing to nasal reflexes all sorts of neuroses. The literature of this period teaches the important lesson that the subject of nasal reflex is one which we must study with caution. If we stop and analyze the methods by which the diagnosis of a nasal reflex is established we can readily appreciate how errors in diagnosis may occur. In the first place the method of making a diagnosis of nasal reflex by the use of a nasal probe is apt to lead to an error in diagnosis. The theory of this method is that if so-called sensitive areas in the nasal mucous membrane are touched with a probe the reflex trouble will be started. As a matter of fact persons suffering from a supposed nasal reflex are usually of a highly neurotic type, and it is very easy to understand how the irritation of a membrane as sensitive as the mucous membrane of the nose would act to produce an attack of the particular nervous trouble from which the patient might be suffering without the nasal membrane being at all responsible for the cause of the trouble.

Again, the method of diagnosing a nasal reflex by the use of cocain is open to error. This method is based on the theory that if a person is suffering from a nasal reflex the cocainization of the particular sensitive area in the nose will stop temporarily the reflex trouble. The temporary cessation of a nervous trouble following the application of cocain to the nasal membrane can not be considered conclusive evidence that this trouble was of nasal origin, since water applied in the same way has been known to produce the same result. Such cases are particularly susceptible to suggestion of this sort. Another method of making a diagnosis of nasal reflex is by operating on the supposed cause of the trouble in the nose. The relief of the trouble is held to be conclusive evidence that the nose was the cause. Such reasoning is here again seriously at fault, and has often led to unnecessary operations. The examination of any nose will disclose anatomical variations, such as slight spurs of the septum, which the enthusiast is likely to interpret as the source of the reflex trouble and remove by operation. The same error is frequently made of attributing to these harmless anatomical variations in the nose the cause of nasal pharyngeal catarrh, and even any or all the manifestations of chronic middle catarrh. The patient is subjected to an intranasal operation, the only effect of which on the ear trouble must be to increase rather than alleviate the condition.

There is, perhaps, no more pernicious error than that of interpreting the effect of a temporary relief of a nervous symptom following an operation as evidence

that these nervous symptoms were produced by the part operated upon. The gynecologists, I believe, hold the reputation for this sort of reasoning, and every one is familiar with the harm done by the enthusiastic gynecologist in his operation on the ovary for the relief of nervous conditions. A specialty, and rhinology is no exception, is a dangerous field for the work of an enthusiast or one prone to have his hobby. In the matter of nasal reflexes the rhinologist must take care lest by faulty reasoning he may be led to false conclusions.

Dr. G. P. Head:—Dr. Wilson in his remarks referred to the cases reported by Francis. I noticed in a paper read before the British Medical Association last year by Macdonald that he reported a large number of cases of asthma cured in the same way and predicted that that would be the way in the future in which the general practitioner would cure cases of asthma, i. e., the cauterization of that point on the septum which is opposite the anterior extremity of the middle turbinal. The suggestion was made that disturbance of this area is not necessarily the cause of asthma or of other reflex neuroses, but that it is a particularly impressionable area in the system and one which is easily reached. There may be other areas which we can not get at so easily, but which, if operated upon, might relieve the symptoms of the reflex neurosis just as effectively as cauterization of the septum. But this is a convenient place to reach and many cases can be relieved by touching it. The whole system is so balanced in some individuals that a considerable error in one organ or very slight errors in several will throw it out of balance and cause trouble which we ordinarily speak of as a neurosis. If we correct any one of the things causing this, we enable the system to resume its balance and prevent those explosions which occur in the form of neuroses. It is the last straw that breaks the camel's back, and a very slight nasal abnormality may be the last straw when the system is carrying all it can in defects of other organs.

We certainly know that in the nose we have areas which are very sensitive, and we know that a person who is not breathing satisfactorily through the nose has one factor at work in destroying nerve balance. If we can correct this condition we do a good deal toward correcting the neuroses that have been mentioned, and that is the idea with which I think most of us work in the nose. We commonly say to a patient with a bad condition of the nose: "I do not know that this will cure your disease at all. I know one thing, it will improve your general condition. It puts one organ in a normal condition, and if the operation tends to that result it will help you in that way. It will do you good in a general way." I noticed a recent article, not alluded to by Dr. Gradle, in one of the St. Paul journals, in which the writer reports a number of cases of tinnitus aurium relieved by cauterization of the middle turbinal, a point which most of us in recent years have been chary in touching with cautery. In view of the connection between the various parts of the body, we can readily see how such a cauterization might influence a disturbance in the ear. The point I have gathered from the discussions on nasal reflexes is that we have in the nose an area on which it is easier to make an impression than on other areas of the body.

Dr. T. Melville Hardie:—I shall not attempt to discuss Dr. Gradle's excellent paper, except to refer to a point raised by Dr. Pierce, who is the only member of the society who has given his experience with reference to asthma and its cure by the removal of pathologic conditions in the nose. I merely wish to say that my experience is altogether different from his, and I remember at this time half a dozen cases of children to whom the suggestion of cure of asthma by operation could not be made, but in whom the asthma has altogether disappeared after the removal of adenoid vegetations. I remember distinctly three children in one family, all of whom had asthma practically from the time of their birth until the removal of adenoid vegetation, and after this the asthmatic symptoms did not recur.

Dr. John Edwin Rhodes:—As laryngologists and rhinologists we ought to be exceedingly conservative in the use of the term nasal reflexes. This is largely a speculative field. When we come to critically study all of the cases that are reported we can arrive at no other conclusion. Although the subject has been

brought up by members of our profession many times, and it has been thoroughly studied, a critical discussion is always profitable. As Dr. Gradle has said, although a great deal has been written on the subject the speculative character of the subject is still evident, and this is evidenced very plainly in considering the conditions in asthma. A good many of us have treated asthmatic cases by intranasal operations, the removal of polypi or cauterizations of particular areas, with fairly satisfactory results, but in other similar cases we have not been so fortunate. We have been unable to relieve the distress at all. We should consider the physiologic points that Dr. Wilson brought out, and chief among them the question as to what constitutes a "nasal reflex."

In a discussion of this kind we are apt to stray far from the precise conditions. Nasal reflex means that we have an afferent sensory nerve, a central area in the cerebro-spinal center, probably, and an efferent motor nerve.

Hay fever can not be classed among those evils resulting from nasal reflex alone. In hay fever we have other elements to contend with quite as important as the reflex, if not much more so. We have stimulus to the nerve endings in the nasal cavity, ex-pollen in the atmosphere, a neurotic condition in the patient, the psychic condition under which the patient lives and works. There are, no doubt, some abnormal conditions that are of distinctly nasal reflex origin. There are nasal reflexes from irritation of the nasal mucous membrane, whether from growths or by the use of a probe or otherwise. We have coughing and sneezing and spasms of the glottis, and asthmatic seizures from nasal reflexes, but that most of these are purely physiologic conditions has been shown by Dr. Wilson, and we can not but agree with him. Taking all this into consideration, it is a pretty well established fact that asthma is sometimes a nasal reflex, but that it can be relieved by any fixed nasal operation would seem to be doubtful, considering the fact that Francis reported 402 cases of asthma which he treated by cauterization of the upper anterior portion of the nasal septum, claiming to have relieved or cured all but eight of these, while another authority, equally good, declares that he has cured asthma by cauterizing the anterior end of the inferior turbinated body, and other cases have been cured by the removal of polypi, exostosis or other obstructions. There would seem to be no distinctive area, so far as we can discover from comparing the cases reported, which can be definitely pointed out as the focusing spot to be treated for the cure of asthma.

It has been said that with a nasal reflex as a starting point, almost anything can be reasoned out. The same may be said of other reflexes. I need but to mention those claimed by some gynecologists and ophthalmologists. That we are apt to stray very far from proven facts in discussions of this topic is because the positive proofs are so few. We must agree with Dr. Shambaugh as to the amount of speculation that hampers us. The methods we employ are tentative, and they do not really prove much after all. Many of us have had cases similar to those reported by Dr. Pierce. Such a one was referred to me not long ago. The patient, a young woman, had suffered from dysmenorrhea for several years. During one of her menstrual periods the attending physician went to the house and applied cocain to the anterior portion of the nasal septum. This relieved the dysmenorrhea promptly. He subsequently sent the case to me for cauterization of these nasal areas, which I did, but do not know how permanent the results may be. She was much better for a time, but I doubt very much if we can expect a permanent cure from such a procedure in many cases of the kind. The nervous condition of the patient must be considered as an important factor in these cases. I have in mind a reported case of epilepsy that was cured by the removal of a spur from the septum; and that it was the cause of the epileptic attacks seems to have been proven by the fact that a plug having been put in the nose to prevent hemorrhage, the swelling of the plug brought on epileptic attacks, from which the patient was a sufferer. Following the removal of the plug there was a cessation of the attacks, and at last reports the removal of the spur had brought about a relief from the epilepsy, as the attacks had not returned. Such cases, in my opinion, however, are purely speculative and do not increase our knowledge of facts very much. The scientific aspect given to these

discussions by Dr. Wilson and Dr. Gradle should certainly be of great service to us, and especially the point emphasized that we can often remove one of the causes of the explosion in asthma by performing intranasal operations.

Dr. George Paull Marquis:—I simply want to emphasize the point that we should not attempt to ascribe everything directly to nasal reflexes, but we should differentiate between nasal reflex proper and mechanical irritation. There are a great many such cases as have been cited this evening. For instance, we know that patients with asthma have been benefited very materially after the removal of adenoids, the removal of hypertrophies of the posterior ends of the inferior turbinate, or after the removal of polypi. But in those cases we always have a mechanical irritation due to the secretion of these hypertrophied posterior ends, these polypi, or from the adenoids, which we all know secrete very profusely, and the mechanical irritation of this secretion in the pharynx over the epiglottis sometimes irritates the larynx itself, bringing on spasms or attacks which, if not caused directly by it, increase or excite a predisposition to such diseases as asthma. Other instances are those of mechanical pressure in the nose due to deviations of the septum, to spurs or hypertrophies. I have seen a number of cases of constant headache where the patients have been relieved simply by straightening a deflected septum where it pressed on the middle turbinated bone. This was not a nasal reflex, but direct pressure. On the other hand we see cases where a reflex condition, pure and simple, occurs. I remember the case of a child I operated upon last winter. The child had frequent convulsions. I made a diagnosis of adenoids in the vault of the pharynx, and after their removal the convulsions did not recur. I do not see how those cases can be explained on the ground of pressure. There are many cases which we ascribe to reflexes, but which I think can be explained on the ground of direct mechanical pressure. We should not ascribe everything to a nasal reflex when in many cases the cause may be traced directly to other sources.

Dr. J. Holinger:—With regard to Dr. Gradle's remarks concerning affections of the heart in connection with the nose, I wish to say that I recently read a paper before the Mississippi Valley Medical Association on "General Blood Poisoning Emanating from the Nose." I reported cases where general rheumatism was cured by operative procedures in the nose, particularly the frontal sinus. To me it appears quite plausible that certain heart lesions are metastases from the nose, as was proven long ago of septic processes in the tonsils. May not heart lesions have a similar explanation as a form of general blood poisoning from the nose? The most pronounced case in this line was an old man who was not neurotic, but who had rheumatism in all parts of the body for years and years. He consulted me and I removed polypi from the anterior part of the nose, after which he stated distinctly that he was free from rheumatism. The rheumatism, however, returned after a few months and disappeared again after I had removed another series of polypi. Finally his rheumatism was permanently cured after the frontal sinus was opened and pieces of necrotic bone were removed. There can be no question as to cause and effect in this case. It was simply a general blood poisoning from the affection of the frontal sinus, and the rheumatism was nothing more than a slight sepsis. So I think a line must be drawn between real reflex from the nose and general septic conditions with metastases in different organs, with exclusion of the nerves. I doubt, however, whether a differential diagnosis is always possible. This, to me, explains anyway a part of the speculations about nasal reflexes.

Dr. A. H. Andrews:—It is evident, after listening to this discussion, that it is exceedingly difficult always to trace the relation between cause and effect. I think there is little doubt but that some of the effects which we see are due, as Dr. Head suggests, to the disturbance of nervous equilibrium caused by intranasal conditions. The question of dysmenorrhea has been discussed. I had some experience in the treatment of perhaps half a dozen cases of that kind which were referred to me by a gynecologist. Three or four of them I have been able to watch. In three the dysmenorrhea has returned, although it was said to have

been greatly relieved shortly after cauterization of the nose. In one patient, whose nose was cauterized over two years ago, the dysmenorrhea has not returned, but that of itself does not prove anything, because dysmenorrhea disappears apparently of itself sometimes. With regard to the psychic effect of the application of cocain to the nose, I would say that in three of these cases we applied a pledget of cotton, saturated with water first, to see what effect it would have, and got absolutely no effect upon the pain. The experiment was made while the patient claimed to be suffering severe pain, and within an hour afterward applications of cocain were made and the pain was relieved. My recollection is, relief was afforded in ten or fifteen minutes. Again, we must remember that we are not alone in wrestling with these reflex cases. Gynecologists, as has been said, have removed ovaries for certain disturbances of the nervous system. We know very well that the orificial surgeon—I am tempted to call him the rectologist—stretches the rectum, removes pockets from the rectum, and, from his reports, he gets better results than we dare report to-night. The specialist—I do not know what to call him, as I do not know what class he belongs to—circumcises people for hay fever and for asthma, as well as for various other disturbances which have sometimes been attributed to nasal conditions, and obtains results which are said to be quite satisfactory. So we must remember that we are not the only ones, and we must leave something for the other man to do in the treatment of these cases.

Dr. Joseph C. Beck:—I would like to report a case in connection with this discussion which Dr. Gradle has had the privilege of seeing. It is a case of angioneurotic edema, the patient having periodical swelling of the cheek in the region close to the parotid gland, and associated with it is a rhinorrhea. Examination of the nose between attacks showed it to be absolutely normal. The swelling is preceded by a sneezing fit, and then there is edema or closure of both nostrils, but more particularly on the side where the swelling occurs on the face. This swelling lasts for twenty-four hours, after which the nasal passages become clear and the swelling goes down. Dr. Gradle has seen the case and concurs in the diagnosis of angioneurotic edema, and the nose very likely has nothing to do with the swelling. I tried to find sensitive spots on the septum. I cauterized the septum at various times without any effect whatsoever, and I believe that the nose plays very little part in the pathologic condition, particularly as regards heart lesions and rheumatic affections.

FIBROMA OF THE TONSIL.

Dr. Edwin Pynchon.

I have taken the privilege of bringing here to-night a patient whose case is of sufficient interest to warrant me in presenting him. It is a case in which there was a condition of marked hypertrophy of one tonsil only. He is 31 years of age and in good health. He came to me with the following history: His health up to eight years ago was perfect, with the exception of having had the usual ills of childhood. Otherwise he remained in good health until he was 23 years old, at which time he had an attack of tonsillitis or quinsy, which was so violent that it confined him to the house for approximately five weeks. After the subsidence of the quinsy there was no decrease in the size of the tonsil. At the time I examined him the picture was very peculiar. Beginning in the median line, from the uvula, the tonsil on the enlarged side went down with a simple curve, while on the other side the faucial curve was normal, the two pillars being free, with a recess between them, containing a small tonsil which might be called normal. At the time of the attack of quinsy only one side was affected. The first question that would occur would be that of malignancy. There is no history of any in the family. The tonsil had remained in the present condition for eight years. During the interval the patient's health was perfect, with the exception of two or three slight attacks of follicular tonsillitis. Within these eight years he has served three years in the army, during which time he did not lose a single day on account of impaired health. He has also served in the militia. During this time (eight years) he was examined by different army surgeons, five of

whom indorsed the propriety of removing the tonsil, but all of whom declined to do so, apparently on account of the fear of hemorrhage. At the time I examined him the anterior pillar was tremendously enlarged and the tonsil on that side had the appearance of being almost the size of a pullet's egg. In the center of the tonsil there was an aggregation of four or five large follicles, which looked like a chronic lacunar tonsillitis.

I decided to remove the tonsil by "cautery dissection," believing it to be the safest method in any case where there is a fibrous condition or danger of hemorrhage. I cleared out the supra-tonsillar fossa perfectly and peeled the tonsil down toward its base. The mass was so large that it fell over on the other side, so as to gag the patient considerably. There was not much hemorrhage, but a large amount of frothy saliva. The operation occupied considerable time. Eventually I had the tonsil pretty well loosened, though, on account of having to work in the dark, as I got near the median line I scaled out toward the surface rather than go into deep water. I was able to separate the upper three-fourths of the tonsil. I eventually completed the operation with a cold snare. From the pedicle which I cut with the cold snare there was a moderate hemorrhage, which lasted ten or fifteen minutes, but which was easily arrested by gargling with ice water. The only thing I left was the lower part of the tonsil. I usually get all of a tonsil when I go after it, but in this case I did not get it all. I contemplate removing the remainder at a later period. As regards the character of the tonsil, I do not believe there is anything of a malignant nature about it. I consider it of a fibromatous nature only. The tonsil weighs a trifle over half an ounce. During the past sixteen years I have done, probably, in the neighborhood of 2,000 tonsillectomies, in addition to many tonsillotomies. I have removed several tonsils that looked large. I previously removed a tonsil which I thought would weigh half an ounce, but it weighed less than two drams. I have never seen as large a tonsil as this one.

Dr. Joseph C. Beck made some remarks on "Tympanic Massage: A New Method by Means of Metallic Mercury."

CRAWFORD COUNTY.

The Society met in regular session at the office of Dr. I. L. Firebaugh, in Robinson, Jan. 11, 1906, at 2 p. m. Those present were Drs. T. N. Rafferty, I. L. Firebaugh, C. Barlow, A. G. Meserve, Frank Dunham, H. N. Rafferty, Gould Smith and C. R. Burner of Robinson; Drs. C. H. Voorheis and J. B. Cato of Hutsonville; Dr. J. E. Midgett of Flat Rock and Dr. C. E. Hardin of Trimble. The minutes of the previous meeting were approved. The Board of Censors having reported favorably on Dr. Gould Smith's application for membership, he was duly elected on vote of the society. Dr. Charles E. Hardin of Trimble was presented as a candidate for membership, and on motion, the rules were suspended and Dr. Hardin was at once elected to membership in the society.

The following program was rendered: 1. "Ear Complications of Scarlatina, etc.; Their Prophylaxis and Treatment," Dr. J. E. Midgett. 2. "Eyestrain in General Practice," Dr. H. N. Rafferty. 3. "Pneumonia," Dr. Gould Smith. These papers each brought out a very general discussion.

The Treasurer was instructed to pay the Argus Printing House the sum of $11.50, balance on printing bill to date. The following resolution was adopted: "*Resolved*, That the Crawford County Medical Society endorses the campaign against the nostrum evil, which has been inaugurated by the Council on Pharmacy and Chemistry of the American Medical Association, and trusts that this good work may be continued."

The Secretary read a letter from Dr. R. J. Christie, Jr., of Quincy, chairman of Section 2, Illinois State Medical Society, asking for a better representation from Crawford County on the program for the Springfield meeting. On motion, the society adjourned to meet in March, at the office of Dr. C. Barlow of Robinson.

H. N. RAFFERTY, *Official Reporter.*

MACON COUNTY.

DECATUR MEDICAL SOCIETY.

Tuesday evening, Jan. 23, 1906, the regular monthly meeting of the Decatur Medical Society was held in the rooms of the Decatur Club, the President, Everett J. Brown, presiding. The program for the evening consisted of a talk by Dr. J. T. McDavis on some interesting cases of Obstetrics. The Doctor described some of the cases he had when beginning the practice of medicine. His reminiscences were greatly enjoyed by the members of the Society. Dr. L. C. Taylor, the guest of the Society from Springfield, reported a case of chylothorax with chylous ascites, and exhibited specimens from the case. Dr. Taylor's paper was greatly appreciated both on account of the rarity of the condition and because of the thoroughness with which the subject was discussed. The Society extended a vote of thanks to Dr. Taylor.

The President appointed as a committee to draw up resolutions endorsing the magazines that are fighting the nostrum evil, Drs. M. P. Parrish, F. M. Anderson and A. F. Wilhemy. Following the smoker, the Society adjourned.

MORGAN COUNTY.

CARDIAC ANEURISM, WITH REPORT OF TWO CASES OF RUPTURE OF THE HEART, WITH SPECIMENS.*

DR. HERBERT A. POTTS,

JACKSONVILLE.

ASSISTANT PHYSICIAN ILLINOIS CENTRAL HOSPITAL FOR INSANE.

Before proceeding with the subject I should like to call your attention to some conditions which may seem to be a little foreign to the topic, but which are closely related from an etiologic standpoint. What is generally known as an aneurism is a hollow tumor filled with blood, whose cavity communicates with the lumen of an artery, permitting the blood to flow in and out. Its walls may or may not be composed of the coats of the artery; therefore we have what is known as true aneurism and false aneurism. The sac of a true aneurism is composed of the walls of the artery, one of which must be intact, while the other, a false aneurism, has no arterial coat and the blood is contained in a sac which is composed of other tissue. True aneurisms are classified by the shape of the sac, being fusiform, cylindrical, cirsoid, etc. A dissecting aneurism is one in which the blood enters between the arterial tunic and occupies the space so made. These are usually seen in the aorta and are usually due to injury or laceration.

Aneurisms may be classified as to their etiology: 1. Loss of resistant power and consequent distention. This may be in early arteriosclerosis, before compensatory thickening occurs, as is often seen in the aorta. These arteriosclerotic aneurisms also occur in the smaller arteries and are common in diseases of the brain, where they are called miliary aneurisms. 2. Embolic aneurisms. These are swellings of the artery on the proximal side of an embolus. These are most often seen in end arteries. 3. Mycotic type, seen in malignant myocarditis. These produce small abscesses, which may rupture into the cavity of the heart, producing acute cardiac ulcers; they may also rupture into the pericardial cavity, or become encysted. 4. Parasitic aneurisms; these are often seen in the mesentery of the horse and are due to the strongylus armatus. 5. Thoma's traction aneurisms of the concavity of the aorta at the site of the remains of the ductus botalli. 6. Idiopathic aneurisms, due to no known cause, which have a tendency to develop in various parts of the body of the same individual.

Cardiac Aneurisms.—There are aneurisms of the coronary arteries, but by cardiac aneurism we mean one in which the structure involved is either the wall of the heart or one of its valves. Valvular aneurisms result from ulcerative en-

* Read before the Morgan County Medical Society Nov. 9, 1905.

docarditis. These may perforate the valve or so weaken it by erosion that the valve gradually dilates under the pressure exerted by the blood. This condition is usually confined to one segment of the valve. Aneurisms of the walls of the heart result from weakening of the cardiac muscle, being a sequel of chronic myocarditis, stab wounds or gumma. The location is usually at the apex of the left ventricle, which is usually the seat of fibrous degeneration. Cardiac aneurisms, following, as they usually do, arteriosclerosis and degeneration of the heart, are generally found in white males past middle life, while true aneurisms are found in negroes in early middle life, the proportion being one to four. As aneurisms of the heart are due to a weakened condition of the heart's musculature, the intoxications must be an etiologic factor. These may be acute, as in poisoning from phosphorus; prolonged fevers, as diphtheria, typhus and typhoid; or chronic, as in chronic alcoholism and gout. In connection with these intoxications we will consider those conditions of the heart muscle which predispose to aneurisms and rupture, namely, lesions due to disease of the coronary arteries. The terminal branches of the coronary arteries are end arteries, although it has been shown that the vessels of Thebsius, which open from the auricles and ventricles, breaking up into fine branches, which communicate with the cardiac capillaries, may be capable of keeping up the heart's vitality, even if some of the branches of the coronary arteries be occluded. 1. We may find anemic necrosis due to an infarct, the area being a white infarction, most common in the walls of the left ventricle and in the septum. This area is of a yellowish-white hue, or may be turbid or of a grayish-red tint. It is often wedge-shaped or may be irregular. Microscopically, is seen an absence of muscle nuclei, leucocytes appear at the borders, which may themselves disintegrate; later at the border fibrous tissue begins to form; this may entirely replace the muscle fibers, which have lost their nutrition. Hyaline degeneration may take place in the infarct without the formation of fibrous tissue.

Sudden death may follow anemic infarction; therefore in such cases dissection of the coronaries should always be made. Rupture may also follow necrosis of the lesion. 2. Fibrous myocarditis, also extreme calcification, may be present, as shown in specimen No. 3. This may result from gradual change following anemic infarction or necrosis, or from narrowing of the lumen of the coronary arteries. This fibrous condition is most commonly seen at the apex of the left ventricle, but it may occur in any part. Hypertrophy is commonly associated with the process and always precedes the formation of a cardiac aneurism. 3. Septic infarct; these are seen in the smaller branches of the coronaries and give rise to small abscesses, which may perforate in any direction, forming what is known as acute ulcer of the heart.

As a second predisposing cause we have acute interstitial myocarditis. This is seen in some infections, as diphtheria, typhoid, acute endocarditis and pyemia. Gonococci have also been demonstrated in these localized areas. These areas are the seat of granular, fatty or hyaline degeneration, and are the starting points of a fibrous myocarditis. Parenchymatous degeneration may occur, induced by prolonged fever of infectious diseases, in which the muscle is flabby and pale generally and the muscle fibers are degenerated, due, probably, to direct toxic effect upon them. In such cases the muscle is friable and weak. Finally, we may have the fatty heart. Under this there are two distinct processes, namely, fatty degeneration and fatty infiltration. Fatty degeneration is common in old age, wasting diseases, the anemias and cachetic states. Phosphorus poisoning is also an active cause. Hypertrophy in valvular disease also contributes its share. The principal cause is coronary disease. The left ventricle is most often affected and is more or less flabby, of a light yellowish-brown color, and is fibrous. Microscopically, minute granules and drops of fat are seen in the swollen muscle fibers. Fatty infiltration is most often seen in the very obese, and is an increase in the subpericardial fat. This infiltrates between the muscle fibers and produces a pressure atrophy of them. This condition is usually most marked in the right ventricle and a cut section may show almost complete absence of muscular tissue. The cavities of the heart are usually dilated.

As arteriosclerosis is the most important etiologic factor in cardiac aneurism and rupture, I wish to call your attention to some of the most important changes which take place in this condition: First, its pathogenesis. This condition is a manifestation of disturbed nutrition of the vessels, both arteries and veins. It is not a true inflammation. Hurchard's idea is that in some cases arteriosclerosis is due to arteritic processes in the vaso vasorum, causing improper nutrition of the intima, then of the media, this leading to a retrogressive metamorphosis in the areas affected, with subsequent hypertrophy of connective tissue. Later real inflammatory changes take place in the media, adventitia and periarterial tissue. Thoma's idea concerning it is as follows: First, the diffuse variety; slowing the blood current is always followed by contraction of the media to accelerate the current. If this fails or is insufficient, the intima thickens by formation of a subendothelium layer of connective tissue in order to accelerate the blood current. Sooner or later retrograde changes occur in this tissue. The diffuse form usually affects the smaller vessels first and is always more marked in them. In the nodular form there is a weakening of the walls. This is followed by a compensatory thickening of the intima. This form is often associated with the diffuse form and usually affects the larger and medium-sized vessels. It also tends to affect especially the orifices of branching vessels.

Pathologic Anatomy.—1. Large- and medium-sized arteries are dilated, while the lumen of the smaller ones is narrowed. 2. The sclerotic process is often very marked about the orifices of branching vessels, which may even be closed by the thickening. 3. In large arteries, atheroma is the most common form. In smaller ones, hyaline degeneration followed by calcification is most commonly noticed. 4. Changes in the intima; areas of sclerosis are seen, first as grayish, later as yellowish, or yellowish-white, sharply circumscribed or diffusely outlined patches. They are usually soft at first, later becoming hard. Sclerotic surfaces may be smooth or covered with thrombi or ulcers. Retrogressive changes consist of fatty degeneration and calcification of the patch, afterward associated with true bone formation. If small areas of fatty degeneration occur in the intima, thrombi may form and become sclerotic. These later may separate and become emboli. Changes in the intima may also be due to disease of the vaso vasorum. The following changes occur in the media: The musculature may be thickened by hypertrophy or thinned by distension, depending on the formation of connective tissue; fatty degeneration or hyaline degeneration with calcification may occur; reactive inflammation sets in, with round-cell infiltration and formation of new vessels extending from the adventitia. This results in the formation of thick layers of connective tissue in the intima to compensate for the weak vessel walls. This thickening by connective tissue also takes place in the adventitia.

Thus, we see, rupture of the heart may be a sequel of many and varied processes, which, being themselves distinct, are very closely allied. We have now considered the most important predisposing causes, the active cause being decreased resistance of the heart or increased blood pressure, or both. Therefore, when we have conditions which predispose to heart rupture, it is very evident that every effort should be made to reduce and control the pressure of the blood within the heart. Rupture of the heart has been reported in a few cases due to crushing injury and blows received over the præcordia.

Demonstration of Specimens. Specimen No. 1.—We have here a heart which is enlarged, with an increased amount of fat. On the posterior surface, near the apex, is a slightly discolored, bulging area about as large as a dollar. This discoloration is due to infiltration of the muscular tissue by blood; at a point midway in the longitudinal direction of the ventricle and over the ventricular septum this infiltration has become subpericardial and has extended upward almost the full length of the ventricle and downward around the apex of the heart to the apex of the right ventricle, this area of dissection being two cm. wide by 15 cm. It is, at a point 4 cm. below the upper border of this area, that the pericardium ruptured, allowing the blood to escape into the pericardial cavity, which contained about 30 ounces of clotted blood and serum. The bulging area above men-

tioned at the apex of the left ventricle is a cardiac aneurism, the tissues of which are fibrous, retrogressive changes having occurred, causing a weakened condition; consequently the aneurism was produced. On opening the left ventricle, a blood clot is seen, which is continuous, through an opening in the endocardium, with the clotted blood which infiltrates the tissues, the point being directly at the apex of the left ventricle. The left ventricle is very much hypertrophied, its walls averaging 2½ cm. in diameter, being of a grayish-brown color and friable. The endocardium is thickened, being whitish in color. The base of the aortic valves are hard and nodular. The aorta itself shows numerous small areas of atheroma. The left auricle is enlarged, its endocardium being very much thickened and white in color. The mitral valve is competent, but shows at its base indurated and thickened areas, and the dilatation and condition of the auricular endocardium shows mitral incompetency. The right ventricle is also hypertrophied as well as dilated, its trabeculæ being flattened and its muscular walls thickened, except at the apex, where it shows marked fatty infiltration. The pulmonary valves are normal. The right auricle is dilated, its endocardium being thickened and of a whitish color; the tricuspid valve shows very little change, except at its base, where it is somewhat thick. The coronary arteries, both anterior and posterior, show marked corrugation and lengthening. On dissection, they are diffusely sclerotic, as well as showing numerous atheromatous areas. Thus we see that in this case we have a true cardiac aneurism, which is necessarily chronic, the left ventricle being very much hypertrophied. The cause of the aneurism is a replacement of the muscular tissue by fibrous tissue, this becoming weakened and distended, the pressure exerted by the blood within the ventricles being sufficient to rupture the aneurism. A cut section of the whole clotted area shows the presence of blood not only beneath the pericardium, but infiltrated between the muscular fibers of the whole heart wall.

The patient was 73 years of age, had used liquor all his life, and was for 20 years employed in a gas plant; he was robust and of stocky build and gave no history of syphilis. Physical examination showed quite marked arteriosclerosis, radial pulse being hard and irregular in time and volume, this condition being exaggerated by muscular exercise. He was suffering from chronic alcoholic delusional insanity. Four days before his death he had several sharp stabbing pains about the region of his heart. He was placed in bed, given salines and nitrites, which gave him much relief, so that he was out of bed on the third day. The next day he was at the dinner table, when he suddenly expired.

Specimen No. 2.—In this specimen we find a rupture of the heart under a very different condition, namely, myomalacia cordis. In each case it is the left ventricle which is ruptured, the first one at its apex, which has been replaced by fibrous tissue. In this one directly through the softened wall of the ventricle about its middle, quite close to the interventricular septum. This heart is not markedly hypertrophied, neither are any of its chambers dilated. A dissection of the anterior coronary artery shows numerous atheromatous conditions, particularly near its origin. The posterior coronary artery shows, at a point 3 cm. from its origin, a diffuse thickening of the artery, whose lumen is narrowed at this point and is the seat of a recently formed thrombus. Thus we have the nutrition of the heart beyond this point greatly impaired by the cutting off of its blood supply. This area is diffusely outlined and of a grayish-white color. It is very friable and weak and is an anemic infarct. The appearance of the wound is similar to a gunshot wound, the ball having passed from within outward.

Specimen No. 3.—This specimen shows to what an intense degree the cardiac muscle may be impaired and still carry on the circulation. The wall of the left ventricle, excepting the septum, is filled with nodules varying from the size of a grain of wheat to a pigeon egg. Most of these fibrous areas show calcification to a greater or less degree of their centers. The papillary muscles are practically all calcified. The coronary arteries in this case show a diffuse arteriosclerosis, the case being one of fibrous myocarditis with extreme calcification.

The regular January meeting of the Morgan County Medical Society was called to order by the President, Dr. Josephine Milligan, fifteen members being present. Dr. H. Woltman was elected to membership, and Dr. A. P. Bartlett to associate membership. The standing committees for the year were appointed by the president, also a committee of Ways and Means for the February meeting, for which an address by Dr. George H. Simmons, Secretary of the American Medical Association was announced.

The subject of the evening was Diseases of the Kidney. Dr. E. L. Crouch read a paper on Some Nervous Symptons of Bright's Disease.

SOME SYMPTOMS OF BRIGHT'S DISEASE.

E. L. CROUCH, M.D.

Assistant Physician Illinois Central Hospital for the Insane, Jacksonville.

In the various forms of Bright's disease the kidneys fail to eliminate the products of tissue waste, which are poisonous materials; and if this toxic matter is not eliminated through other channels and is retained in the blood, there may be produced a train of nervous symptoms usually known as uremia. These manifestations may be found in both acute and chronic nephritis, resulting directly from the toxemia, or indirectly through vasomotor irritation, causing an increased blood pressure and cardiovascular changes. Charcot found kidney disease in one-third of his cases of cerebral hemorrhage, which finding has been verified by other observers. One of the early symptoms in both acute and chronic nephritis is headache, usually situated in the occipital region. It is severe and of a bursting character and may be associated with giddiness. It may be present on waking and continue only through the morning hours. In acute uremia, it persists throughout the attack, with vertiginous seizures, syncopal attacks, severe palpitation, disordered sensations (special and general), itching of the skin, numbness, tingling of the fingers, and cramps in the muscles of the calves, particularly at night. Some subjects are victims to severe forms of facial neuralgia, others complain of great mental torpor with somnolence or even stupor. Speech is now and then slightly affected in the way of indistinct articulations or clipping of words. There may be an aphasia, also squinting or inequality of the pupils, Jacksonian convulsions, monoplegias or hemiplegias coming on suddenly or following a convulsion. The symptoms may simulate almost every form of organic paralysis of cerebral origin, which would seem to indicate some localized change in the brain which may not be apparent after death. Bright's blindness with partial or complete loss of sight, which may be temporary, may occur independent of any retinal change, or any alteration discernible with the ophthalmoscope. Deafness may also occur. These symptoms of disordered innervation may be explained to a large extent by a deranged state of the blood, both as regards its quality and its supply to the central nervous system.

Convulsions may come on unexpectedly or be preceded by headache and restlessness or various muscular agitations, such as twitching of the face and limbs, etc. The attacks may simulate ordinary epilepsy, hence they are sometimes called epileptiform convulsions. The spasm may be more marked on one side and cause a deviation of the head and eyes to that side; occasionally the convulsions are unilateral, but the affection of one side is not constant, the side involved varying in different fits. The convulsions often begin locally, but quickly spread. The pupils are usually dilated. Unconsciousness or drowsiness follows the convulsions. The fits are seldom isolated, usually several occur in a short time. Coma usually follows the convulsion, but may develop independent of the convulsive seizures, in which case it is preceded by headache and the patient becomes dull and apathetic. In these cases, there may have been no previous indication of renal disease, and unless the urine is examined, the nature of the case may be overlooked. In some of these cases, a condition of torpor persists for weeks and even months. The coma of Bright's disease is less profound and less stertorous than that which is produced by cerebral hemorrhage and the muscular failure commonly affects both sides alike. Cheyne-Stokes breathing is often present, sometimes in a very marked form. Asthmatic attacks may occur, which has been explained as resulting from spasm of the pulmonary artery, as well as from the edema.

Various psychic disturbances may occur, some peculiarity of or change in manner or temper, a lachrymose tendency, a feeling of stupidity, drowsiness, sometimes sleeplessness and occasionally a horrible restlessness, which is more distressing than any actual pain. This condition may be followed by mania with its various symptoms, hallucinations of the special senses, and various delusions.

In many cases there is a marked tendency to depression and profound melancholia may supervene, during which the patient may commit suicide. The nephritic psychoses resemble other toxic insanities and resemble an hallucinatory paranoia. As a result of cardiovascular changes in Bright's disease, we may find a condition known as chronic cerebral atrophy, which presents the symptoms of a premature senility.

I wish briefly to report two cases, the first a case of acute Bright's disease suffering from a toxemia; the second, a case of chronic Bright's disease suffering from cardiovascular change.

Miss C., aged 18, family history negative. Since age of 14 had been wayward and at times would run away from home, being very hard to control. When admitted was maniacal, had hallucinations of sight and hearing, thought she could see and hear devils after her, was very much disturbed, had not slept or taken nourishment for several days; attack came on suddenly. Temperature when admitted was 101, pulse 100; was voiding very little urine, amount could not be ascertained; a specimen obtained by catheter was heavily loaded with albumen, numerous casts, both epithelial and hyaline, and some blood. This wild delirium continued for four days, when twitching and slight convulsive movements developed. She passed into a state of coma and died on the eighth day in hospital.

Mrs. T., aged 53, widow, admitted to the Central Hospital for the Insane January, 1903; oldest brother was insane; very little personal history obtained. The duration of attack was given as nine months. Following loss of her husband, she lost interest in household duties, worried over her husband's death, became careless and untidy, had hallucinations of hearing, thought death of her husband was the result of her neglect, and for this neglect she was to be punished, cried a great deal, was very restless, walked the floor rubbing her hands, appetite was poor, at times refused food and thought it was poisoned. Patient was anemic, left ventricle hypertrophied, pulse 60, hard and tense. Urine contained albumen, hyaline and granular casts. Slight edema of feet and ankles. Mental condition remained unchanged. May 26, 1903, had two convulsions during the night, followed by coma, and died the next morning.

Dr. B. S. Gailey read a paper on Eye Conditions Accompanying Albuminuria.

EYE CONDITIONS ACCOMPANYING ALBUMINURIA.

BYRON S. GAILEY, M.D.

JACKSONVILLE.

Early in the last century it was observed that many cases of albuminuria were accompanied by marked diminution of vision. It was not, however, until 1850 that Türck showed conclusively that the amblyopia of albuminuria was accompanied by structural changes in the retina visible to the eye. Statistics from various sources show that about 30 per cent. of cases having kidney lesions show eye changes. These changes take place principally in the optic nerve, retina and blood vessels, and consequently can not be seen without the aid of the opthalmoscope. Often the first indication of a serious kidney lesion is a rapid diminution of vision, which causes the patient to seek relief from the oculist, who soon discovers the characteristic appearance of the fundus, refers the patient to his physician for proper treatment. Most of the changes we find in the fundus are due to a sclerosis or degeneration of the arteries resulting in edema, exudation and hemorrhages, the edema often being so considerable as to obscure the optic disc. In the macular region, there is often a more or less definite arrangement of the exudate in the shape of a star. This is considered quite characteristic. The hemorrhages are often quite characteristic, being flame like or flame shaped. The severity of the fundus condition is generally, but not always, indicative of the gravity of the kidney lesion. I have a number of times found a condition of the fundus quite characteristic of albuminuria and found no albumen in the urine

after repeated examinations, but later it appeared and was found in considerable amount. Sometimes frequently recurring sub-conjunctival hemorrhages are present in albuminuria, accounted for by the weakened condition of the blood vessels.

Choroiditis sometimes occurs in albuminuria. It develops and progresses slowly. Occasionally one or more of the extrinsic ocular muscles become paralyzed. Cataract sometimes results from faulty nutrition. The retinitis, occurring with the kidney complications of pregnancy, are the cases most likely to undergo resolution and get well, the fundus changes generally not going beyond a considerable edema with some exudation, and possibly slight hemorrhage. Excluding the albuminuria of pregnancy, the occurrence of retinal lesion in kidney disease must be considered as indicating a grave condition; in fact, in the majority of cases it indicates an early fatal termination. This is not strange when we remember that generally when the ocular symptoms of the disease appear the renal disease has reached a stage from which recovery is impossible. In the case of those who live under favorable conditions life may be prolonged for a few years, but the great majority die in from six to eight months. Often similar fundus changes are met with in meningitis, intracranial tumors and syphilis and diabetes. Examination of the urine will clear up the diagnosis.

An animated discussion followed these papers in which most members present joined. Dr. C. E. Black reported a case with a skiagraph of kidney showing calculus in situ. He also showed the calculus after the removal. This case was interesting in that a successful operation had been performed after a diagnosis by different physicians had been made by symptoms, by catheterization of ureter, by skiagraph, and by operation and removal of calculus. Dr. Black said the surgical treatment of Bright's disease by decapsulation of the kidney seemed to promise more than any treatment heretofore recognized. Statistics so far showed that many of these seemingly hopeless cases recovered, or died later of some intercurrent disease. The success of many of these operations seemed to indicate that Bright's disease is a local disease with general toxemia rather than a systemic disease with localized kidney lesion. Dr. Norbury discussed the subject of mental and nervous symptoms accompanying Bright's disease. These cases belong to two classes: 1. Acute nephritis with profound toxemia. 2. Chronic cases, which are more important than the acute, because they can be helped if seen early and a diagnosis made. The basic trouble in these cases is arteriosclerosis, growing out of Bright's disease. Often the mental changes precede the urinary. Often a slight want of mental concentration; a slight amnesis, accompanied with insomnia, may precede frequent urination. It is only when the latter is noticed that an examination of the urine locates the source of the trouble. He reported a case in which amnesia, dimness of vision, hallucinations and paraplegia preceded marked urinary symptoms. Also a case of several years' sanding, in which marked Bright's disease was noted, accompanied by hypertrophied heart, with locality and persecution mania present, especially at night. The mental symptoms in these cases are due to toxemia incident to Bright's disease; arteriosclerosis or nutritional exhaustion. A great deal could be done in the way of elimination in cases seen earlier. Dr. Babcock was quoted as recommending blue mass in these cases.

DISCUSSION.

Dr. T. J. Pitner said that acute nephritis is a localized condition with general toxemia producing mental symptoms. Sub-acute and chronic cases are largely general, rather than local; that is, nephritis is only one symptom. Often the heart and kidney lesions progress *pari passu*. In all cases of insomnia or irritability, with other nervous or mental symptoms, the kidneys should be examined. He spoke hopefully of cases of Bright's disease where he formerly gave a gloomy prognosis. Some of these cases are still living twenty years after an unfavorable prognosis had been given. Mercury in the form of blue mass, in small doses, continued for a year or two often did good. Others reported cases bearing upon the subject.

Society adjourned.

DAVID W. REID, *Secretary*.

WABASH COUNTY MEDICAL SOCIETY.

The Society met Tuesday, January 30 at 2 p. m., at the office of Dr. G. C. Kingsbury, Mount Carmel. The following were elected officers for the ensuing year: Dr. R. J. McMurray, President; Dr. S. W. Schneck, Vice President; Dr. G. C. Kingsbury, Secretary; Dr. J. Schneck, Treasurer.

The subject for the meeting was the experience of the members during the preceding three months in various departments of medicine. Papers, relating such experience, were read by Dr. C. F. Brian on "Ostetrics," Dr. S. W. Schneck on "Emergency Surgery," Dr. L. Lescher on "Pathological Surgery," Dr. A. D. French on "Malaria and Typhoid Fever." Dr. J. B. Maxwell gave a report of the Senn banquet.

WAYNE COUNTY MEDICAL SOCIETY.

The Wayne County Medical Society met in the office of Walters & Harlan, Jan. 10, 1906. Members present were G. A. McDonald, C. O. Truscott, W. M. Johnson, F. Bean, T. J. Hilliard, B. E. Garrison, J. D. Harlan and J. P. Walters. The meeting was called to order by the President, W. M. Johnson, at 1:30 p. m. Minutes of previous meeting were read an approved.

After the payment of dues, which was next in order, the Secretary reported a case of hematuria, the history of which has some remarkable features. The subject was discussed by all present. The Secretary was requested to keep a record of the case and report at the next meeting. T. J. Hilliard then presented a case of spina bifida. Such cases are rare, several of the members having never seen a case. This case was remarkable, in that there is a fair prospect of spontaneous recovery. C. O. Truscott presented a paper on psoas abscess which was highly enjoyed by all present. B. E. Garrison read a paper on palmar abscess, which was freely discussed by all present. J. D. Harlan gave the technique of the Widal reaction in the diagnosis of typhoid fever.

Before adjournment T. J. Hilliard was called on for a speech, as this was the last time he met with the society before removing to his new field of labor, Kansas City. He recounted the pleasant hours spent with the members of the society in our various meetings. All the members present spoke, each showing his appreciation of the Doctor as a gentleman, a citizen and a brother practitioner of medicine, and each gave him a hearty handshake and wished him success in his new field of labor. The society adjourned to meet next April in Wayne City.

J. P. WALTERS, *Secretary.* W. M. JOHNSON, *President.*

THE NORTH CENTRAL ILLINOIS MEDICAL ASSOCIATION.

This society met in its thirty-second annual meeting at 10:50 a. m. Tuesday, Dec. 5, 1905, in the M. E. Church at Streator. Wm. O. Ensign, M.D., of Rutland, president of the association, was in the chair, there being ten members present. After a short prayer by Dr. McVey, of Streator, City Attorney Lloyd Painter welcomed the association on behalf of the city. Response was made by Dr. Sexton on behalf of the medical profession of Streator. Dr. C. D. Chalfant made the address of welcome, to which Dr. Love, of Dana, responded. It was moved and carried that the usual roll call be dispensed with. The minutes of the previous meeting were read and approved. The treasurer's report was read, received and referred to board of censors.

The committee on necrology reported two deaths among the members during the year.

It was moved and carried that all visiting members be invited to take part in the discussion of all papers. Communications were then read from Drs. E. P. Nickoff, J. W. Stealy, A. W. Chandler, John C. White and Bayard Holmes, the latter regretting his inability to be present to read his paper entitled "Some Abdominal Infections."

Adjourned to meet at 1:30.

Afternoon Session.

Called to order at 1:30 p. m. Dr. Weis of Ottawa, presented a paper on "Use and Abuse of Diphtheritic Antitoxin." The writer claimed there is no need of death from diphtheria, unless in laryngeal form. Age makes no difference in the dosage of antitoxin. One hundred per cent. should be the recovery in pharyngeal, nasal or tonsillar diphtheria. Antitoxin should be used early and in large quantities. In laryngeal diphtheria the smallest dose recommended by Dr. Weis was 4,000 units, repeated in 46 hours if temperature does not fall. The paper was discussed by Drs. Tweddale, Pearson, Marshall, Curry, Bonar, Turner, Kemp, G. A. Dieus, Chalfant, Dr. Weis closing the discussion.

The Board of Censors reported favorably on the application of Drs. Charles L. Hamilton of Dwight, Clarence H. Kemp of Lacon, Harry E. Freeman of Millington, Thomas M. Dromgold of Seneca and John C. White of Seatonville.

On motion the secretary was instructed to cast the ballot of the association for the above named.

Dr. F. A. Turner, chairman of the Board of Censors, reported relative to the charges preferred against Drs. E. E. Rohrabaugh of Chicago and Wm. L. Rabe of Dwight for unprofessional conduct, the former for promiscuous selling of liquors to minors and others. Notice had been sent to each in October, 1905. The letter to Dr. Rohrabaugh was returned. A motion was made and seconded that Dr. Rohrabaugh be expelled. Moved as an amendment to postpone action for one year in order that Dr. Rohrabaugh might be found, if possible, and due notice given him. Amendment carried. Motion as amended prevailed. The report concerning Dr. Rabe stated that he had been expelled from the Livingston County Medical Society for selling liquor and had taken an appeal to the State Society. Moved and carried by rising vote that Dr. Rabe be expelled.

Dr. G. T. Love of Dana read the report of a case of acute "Cerebral Paralysis," which was discussed by Drs. Murphy of Dixon and E. P. Cook of Mendota. John Ross, M.D., of Pontiac, secretary of the Livingston County Medical Society, gave a very interesting paper on "County Medical Society Organization." He reported the organization of Livingston County to be very complete and the attendance at their meeting exceptionally large. This paper was freely discussed by Dr. C. D. Chalfant, secretary of the La Salle County Medical Society; Dr. Knoblauch of Woodford County, who claimed their societies had been sleeping for fifteen years, but were now awakening; Dr. White, president of the Bureau County Medical Society; Dr. Schoenneshoefer of Lostant, as chairman of Committee of Arrangements of the La Salle County Medical Society, who also took occasion to invite the North Central Illinois Association to attend the county meeting at Lostant in 1906. Dr. Kemp of Marshal County said they had a good time in their county society, although it was hard work to get a quorum. Dr. Ross closed the discussion.

Dr. Marshal of Pontiac read an exceedingly interesting paper on "Puerperal Sepsis," which elicited a lively discussion, participated in by Drs. Tweddale of Washburn, Jane Reid Keefer of Sterling, C. D. Chalfant of Streator, J. J. Pearson of Pontiac, E. S. Murphy of Dixon, E. P. Cook of Mendota, and Denslow Lewis of Chicago.

Dr. J. F. Percy of Galesburg read a paper on "Acute Exophthalmic Goiter and Its Treatment." He uses the salicylate of sodium in large doses. He finds no good from use of thyroid extract. The *x*-ray has done good in some obstinate cases. A free discussion followed by Drs. F. A. Turner, E. P. Cook, C. H. Kemp and J. C. White.

Tuesday Evening, December 5, 8 O'Clock.

The general public and physicians gathered at 7:30 to listen to an organ recital by Miss Deeds. Dr. E. P. Cook, second vice-president, introduced Dr. Wm. O. Ensign of Rutland, who delivered the president's annual address. President Wm. O. Ensign then introduced Dr. Denslow Lewis of Chicago, who gave the general address of the evening on the subject, "Ignorance as a Cause of Disease and Disaster." A vote of thanks was tendered Dr. Lewis. The Alpha Quartet then sang, closing the evening exercises.

Wednesday, Dec. 6, 1905.

Called to order by the president. Dr. Thomas Croswell of Streator, aged 91 years, the oldest living physician in the district, was present at the meeting and was made an honorary member of the association. The changes in the constitution which were proposed a year ago were then taken up. The first was that Article 2, Section 2, should have the following words added to it: "And must be a member of the local county society, if one exists in the county in which he lived." Moved and carried that this part be laid over until next year. Article 2, Section 4, substitute for the words, "State of Illinois or elsewhere" the words "district No. 2, as established by Illinois State Medical Society." Moved and seconded that this amendment be adopted. Last Article 2, Section 7, should have the words "State of Illinois" changed to "district No. 2." Moved and seconded that this amendment be adopted. Last Article 9, Section should have added to it, Division 4, namely, "Committee on Program," the duty of which shall be to prepare a scientific program for the annual meeting. Moved and seconded that this addition to Article 9, Section be made. After discussion the motion was lost. There being four members who were delinquent five years in dues, their names were ordered dropped from the roll of membership, according to the constitution, for non-payment of dues. These were Dr. M. E. Buellfeld, Troy Grove; Dr. W. H. Fraser, La Salle; Dr. Samuel Hirsch, La Salle; Dr. Frank Hanson, S. Wilmington.

Communications from Dr. F. C. Robinson, Wyanet, and Dr. D. Egan of Chatsworth were read. It was moved that, inasmuch as Dr. Lewis of Chicago met with us and delivered an address and refused to be remunerated in any way, he be made an honorary member of the N. C. I. M. Association. Unanimously carried. Dr. Kilbourn of Ancona reported an interesting case of fracture of the spine, reviewing some symptoms of fracture of the spine. Discussion by Drs. Sanger Brown of Chicago, G. A. Dicus and E. S. Murphy of Dixon. Dr. Sanger Brown of Chicago gave a valuable paper on "Early Symptoms of Insular Sclerosis," which was greatly enjoyed. Discussion by Drs. Perisho, Kilbourn and White. This closed the numbers on the program, all having responded save two, Dr. Hendricks of Henry not being present and Dr. Holmes being detained by illness in his family. A unanimous vote of thanks was tendered Dr. Brown for his excellent paper.

The nominating committee reported as follows: President, J. J. Pearson, M.D., Pontiac; first vice-president, E. P. Cook, M.D., Mendota; second vice-president, E. S. Murphy, M.D., Dixon; secretary and treasurer, George A. Dicus, M.D., Streator; Board of Censors, F. A. Turner, M.D., Sandwich, chairman; J. M. Kaiser, M.D., Somanauk; J. A. Marshal, M.D., Pontiac; J. J. Knoblaugh, M.D., Metamora; Roy Sexton, M.D., Streator.

The selection of a place of meeting was left to the secretary, with a suggestion that, if possible, the association meet in the northwest part of the district. Dr. J. J. Pearson of Pontiac moved a vote of thanks to the profession of Streator for their hospitable entertainment. Carried. Dr. Chalfant moved that the president's address be entered in full on the minutes for the value it would be for future history. Unanimously carried. Moved that the nominating committee's report be accepted and the secretary cast the ballot for the officers of the association for the ensuing year. Dr. Pearson was asked to cast the ballot for secretary and treasurer. He accordingly cast the ballot for the officers for the year 1906 as reported by the nominating committee, except for secretary-treasurer. Dr. Rosewell responded to an invitation to make a few remarks. Dr. Ensign, after a few well-chosen remarks, instructed Dr. Tweddale to conduct President-elect Dr. Pearson of Pontiac to the chair for installation. Dr. Ensign then introduced Dr. Pearson as president of the association for the year 1906 and declared him duly installed. It was moved by Dr. Ensign and carried that we make it an order of business to introduce our vice-presidents. Drs. Ensign and Chalfant were named by the chair to present and introduce the first vice-president, Dr. E. P. Cook of Mendota and Drs. Knoblauch and F. A. Turner to present and introduce vice-president E. S. Murphy of Dixon. Moved to adjourn to meet the first Tuesday in December, 1906.

G. A. DICUS, *Secretary.*

NEWS OF THE STATE

Dr. J. A. Ikemire has located in Palestine.

Dr. Harrison, formerly of Dixon, has located at Chadwick.

Dr. G. T. Nelson, of Morris, fell recently and broke his leg.

Dr. A. K. Warner, of Chicago, has recently returned from a trip to Cuba.

Dr. Robert C. J. Myers has been made Commissioner of Health for Moline.

Dr. George A. Sihler of Litchfield was recently operated on for appendicitis.

Dr. William E. Schowengerdt of Champaign is seriously ill with typhoid fever.

The addition to the Marietta Phelps Hospital, Macomb, is practically completed.

The Minerva Hospital, built by Dr. John A. Colbourne, at Pontiac, has been opened.

Dr. Frank M. Hagen of Lincoln has been elected county physician of Logan County.

Dr. Marvel Thomas and wife of Gillespie are spending the winter in the City of Mexico.

Dr. and Mrs. Benjamin E. Jones of Rock Island have gone to California for the winter.

Three cases of smallpox have occurred in the State Hospital for the Insane at Jacksonville.

Reports from Springfield state that the local hospitals are greatly overcrowded at present.

A new building for the Chicago Lying-in Hospital and Dispensary is planned at a cost of $200,000.

Dr. R. Emory, of Peoria, has been indicted on the charge of murdering the child of Pearl Weaver.

Work on the Methodist Episcopal Memorial Hospital at Mattoon will be finished by the first of March.

Dr. Arthur H. Beebe has been appointed to a position in the Eastern Illinois Insane Asylum at Kankakee.

A dinner was recently given Dr. I. N. Danforth by the Therapeutic Club on the occasion of his seventieth birthday.

A suit for $10,000 damages has been brought by William F. Kruger, Hoopeston, against Drs. T. C. and R. S. McCarthy.

The public schools of Bloomington, which were partially closed during the quarantine against diphtheria, have been reopened.

The vital statistics of the Chicago Health Department show that the average age of death has risen in fifty years from 13 to 31 years.

The new Washington Park Hospital, Sixtieth street and Vernon avenue, was dedicated by a charity bazaar held January 31 to February 3.

At the annual meeting of Former German University Students, held in New York City, Dr. Carl Beck of Chicago was elected honorary president.

The Morgan County Medical Society will hereafter use the Jacksonville Public Library as a meeting place and will have space for its medical library.

Dr. A. H. Andrews has been elected Professor of Otology and Rhinolaryngology by the Faculty of the Chicago Eye, Ear, Nose and Throat College.

Dr. W. H. Scott, of Dallas City, was injured in a runaway recently, his horse becoming frightened and overturned the carriage, throwing him out.

It is rumored that a combination of retail drug stores is being organized in Chicago, to include some of the leading druggists in various parts of the city.

The Board of Trustees of the Eastern Illinois Hospital for the Insane at Kankakee has re-elected Dr. J. C. Corbus as superintendent of the institution.

Dr. H. H. Sherwood has sold his practice at New Windsor to Drs. C. C. Hubley and N. C. McLafferty. Dr. Sherwood has removed to Monmouth.

The finance committee of the Chicago City Council has granted Health Commissioner Whalen an additional $10,000 for the use of his department.

The Physicians' Club of Monmouth were entertained recently by Dr. and Mrs. R. M. C. Ball. Dinner was served and response made to a number of toasts.

It is reported that the late Marshall Field was one of the largest contributors to the $400,000 fund being raised for the remodeling of the Presbyterian Hospital.

According to Health Commissioner W. R. Parkes, Evanston is a remarkably healthy city. During the year 1905 there were only 209 deaths in a population of over 23,000.

Dr. J. B. Murphy has begun suit in the Superior Court against William J. Hylands of Philadelphia, Pa., to recover $25,000 invested in a scheme promoted by the defendant.

The Commissioners of the Bartonville Asylum for the Incurable Insane are considering plans for a new building which will accommodate 100 patients and will cost $30,000.

The Drainage Commission is preparing to ask Congress for authority to widen and deepen the Chicago River in order to increase the flow of lake water through the drainage canal.

Dispatches in the lay press report the presence of a case of smallpox at Earlville, LaSalle County. Dr. C. F. Nelson has been sent by the State Board of Health to examine the case.

James H. Smith, nephew and heir of George Smith, one of the early bankers of Chicago, has given St. Luke's Hospital $500,000 for the construction of a "George Smith annex" to the hospital.

It is reported that the Board of Managers of the Presbyterian Hospital will build an annex to the present hospital which will be equipped in the most comfortable and luxurious manner possible.

The Brokaw Hospital of Bloomington has elected the following officers: Dr. J. Whitefield Smith, President; Dr. John L. Yolton, Vice-President; Dr. Horace W. Elder, Secretary and Treasurer.

The heirs of the Warner estate have announced that they will complete the building of the Warner Hospital of Clinton and that an endowment for the maintenance of the building will also be provided.

Dr. Arnold C. Klebs delivered a public lecture on "Consumption and the Home," February 4, in the Public Library, under the auspices of the Chicago Medical Society. The meeting was largely attended.

A reprint on the subject of practical disinfection has been issued by the Illinois State Board of Health. The use of formaldehyd gas as a disinfectant for bedding, furniture and household effects is advised.

Health Commissioner Whalen has been notified of the transfer of Dr. J. H. Blanks as health officer of Zion City and the appointment in his place of Dr. M. J. LaRose. Dr. Blanks was an appointee of Deacon Speicher.

An agreement has been made between the Trustees of the John Crerar and Newberry Libraries, whereby the medical department of Newberry Library will be transferred to the Crerar Library, as soon as the new building is completed.

Dr. F. M. Stewart, Chicago, was found guilty of the charge of robbery in Judge Kersten's court January 29. It is claimed that he obtained $110 from Felix Berard, who recently came to Chicago from Montreal. A motion for a new trial was entered.

In the suit between the two factions of the Board of Directors of the West Side Hospital, Judge Mack has issued an order in favor of Dr. D. A. K. Steele, restraining Dr. Thomas A. Davis from assuming the presidency of the Board of Directors.

Commissioner of Health Whalen, of Chicago, is endeavoring to have the ambulance service transferred from the police department to the department of health. In a letter addressed to Chief of Police Collins he has set forth his reasons for urging the change.

A special performance of "Babes in Toyland" was given at the Grand Opera House, Chicago, on January 29, for the benefit of the Children's Hospital Aid Society. Every seat in the house was sold and over $3,000 was realized for the children's hospital of the city.

The Brainard District Medical Society, including physicians from eight counties, held its quarterly meeting at Springfield in the Lincoln Library on January 25. Papers were read by Drs. E. E. Hagler of Springfield, G. G. Dowdell of Clinton, J. M. Wilcox of Clinton and others.

The State Civil Service Commission announces an examination, to be held in February, for assistant physicians in the state hospitals for the insane. The examination will be open to all physicians between the ages of 25 and 35, and will include surgery, medicine and nervous and mental diseases.

At the annual meeting of the Children's Hospital Society of Chicago Dr. Frank Billings was re-elected President and Dr. Frank S. Churchill, Secretary. Dr. Billings, in his President's address, stated that since the organization of the society the number of beds for children in Chicago hospitals had nearly doubled.

St. Francis Hospital, Evanston, a charitable institution managed by the Sisters of St. Francis, reports 270 patients cared for during the year 1905, an increase of 52 over the preceeding year. The work of the hospital has grown to such an extent that larger quarters are necessary, and a new building is contemplated.

Dr. Nicholas Senn entertained Surgeon-General Takaki of the Japanese Navy at dinner on February 10. Members of the medical service of the Army, the Navy, the Public Health and Marine-Hospital Service and the Illinois National Guard, as well as a number of guests from the local medical profession, were present.

The Board of Health of Peoria has renewed its fight on tuberculosis, declaring the disease to be infectious and subject to the same restrictions as other infectious diseases. The annual report of the Commissioner of Health shows that 143 of the 1,000 deaths occurring in Peoria during the last year were due to tuberculosis.

A report drafted by Superintendent Cooley and Dr. E. C. Dudley, of the Chicago Board of Education, has been adopted, providing for the examination of public school pupils suspected of tuberculosis. The superintendent has been given authority to keep children suffering from this disease from attending the public schools.

Attorney-General Herbert S. Hadley, of Missouri, declares that there is enough cause of difference between Missouri and Illinois on account of the sewage from the drainage canal to justify war between the two states. The drainage canal case was recently argued before the United States Supreme Court, and a decision rendered in favor of Illinois.

The nurses of the Visiting Association of Chicago were sworn in by Judge Mack as probation officers of the Juvenile Court. This action gives them authority to care for the sick and destitute children, in spite of the protests of parents, and also empowers them to keep crippled and disabled children from working until they are fully recovered.

The jury in the Circuit Court at Belleville returned a verdict in favor of Dr. Arthur M. Kohl, the defendant in a suit for $5,000 damages in-

stituted by Charles Yaeger, who claimed that Dr. Kohl had, when called to attend him, made a diagnosis of smallpox, causing his confinement in the contagion hospital and the quarantining of his place of business.

A large addition will be built to St. Francis Hospital, Litchfield, which will more than double the capacity of the institution. The new building will be a three-story structure, the estimated cost being $25,000. St. Francis Hospital was established in 1872, the present building having been erected in 1890. Its patronage has increased until a large addition has become a necessity.

Dr. E. L. Rivenburgh, 2649 North Forty-fourth Avenue, Chicago, was made defendant in a suit brought by George Boylan and C. Hellstern, who sought to recover $35.00 paid for the treatment of their sons for stammering. Dr. Rivenbaugh stated that the boys did not take their treatment regularly. Justice Everett, before whom the case was tried, has not yet rendered his decision.

The Evanston Hospital Association is planning an addition to its present building which will increase the capacity of the hospital by thirteen beds. A new operating room, diet kitchen and children's nurseries are also provided for. The association has asked each one of the twenty-nine Protestant churches in Evanston to devote one service to presenting the needs of the hospital and raising money for it.

"Professor" J. F. Braun, of Hillsboro, was found guilty of practicing medicine without a license, and, in default of payment of the sum of $100, was sent to jail. Prosecution was conducted by the State Board of Health. Braun claimed that his method of treatment was a mental one. Evidence was introduced showing that he had an office and an operating table and that he made a physical examination of his patients.

Dr. George A. Zeller, Superintendent of the Illinois Asylum for the Incurable Insane, Bartonville, has entered a protest with the State Board of Charities against the practice of sending to the institution large numbers of filthy and dangerous patients from Cook County. Dr. V. A. Podstata, Superintendent of the Cook County Institution, claims that he has sent such patients to Bartonville in accordance with the law.

The management of the Garfield Park Sanitarium, Chicago, was censured by the coroner's jury which investigated the death of Mary Blunk, the 17-year-old girl who committed suicide by drinking carbolic acid while an inmate of the hospital. The jury recommended that the hospital authorities use greater precaution hereafter in guarding poisons used in the hospital. Miss Blunk was suffering from melancholia at the time of her death.

The February meeting of the Morgan County Medical Society was held Thursday, February 8, at the Colonial Hotel, Jacksonville. Dr. George H. Simmons, General Secretary of the American Medical Association and editor of *The Journal of the American Medical Association*, was the guest of the society and read a paper on "Nostrums." A large number of physicians from Peoria, Springfield, Jerseyville and other towns of the Sixth Councilor District were present.

Plans for the new Oak Park Hospital have been drawn and the work will begin in a few weeks. The site selected is on the northeast corner of Wisconsin avenue and Monroe streets. George Lyon Harvey is the architect. The building will be five stories and a basement, of brown vitrified brick, with stone trimmings. There will be accommodations for 90 patients. A modern and thoroughly equipped operating room will be provided.

Collier's Weekly has made the following announcement: *Collier's* will accept no advertisements of beer, whiskey or alcoholic liquors; no advertisements of patent medicines; no medical advertisements, or advertisements making claims to medicinal effects; no advertisement promising extraordinary returns, such as stocks in mining, oil and rubber companies. The editor reserves the right to exclude any advertisement which he considers extravagant in claim or offensive to good taste."

A joint meeting of the Central Wisconsin Medical Society and the Winnebago County (Illinois) Medical Society was held at Rockford on January 31, the principal subject for discussion being the treatment of tuberculosis. A committee composed of Dr. R. C. Bourland, Dr. Starke and Dr. Allaben prepared a report for presentation to the Winnebago County Medical Society, recommending the formation of a stock company to establish a tent colony and sanitarium for the treatment of tuberculosis. In the afternoon a banquet was held at the Nelson House, which was largely attended.

Dr. David J. Doherty, of Chicago, a trustee for a number of years of the Chicago Medical Society and a member of the Public Relations Committee, one of the most active and valuable members of the society, leaves on March 1 for the Philippine Islands for a stay of two years. Dr. Doherty goes to make a study of the languages and dialects of the Philippines and to complete a Filipino-English dictionary on which he has been working for some years past. He also expects to make a study of social and economic conditions among the Filipinos. Members of the Chicago Medical Society tendered Dr. Doherty a farewell reception and banquet Saturday, February 17, at the Bismark restaurant.

The Illinois Association of Military Surgeons held its annual meeting in Chicago on Dec. 9, 1905. A series of clinical demonstrations was held in Senn Hall, Rush Medical College. Dr. Nicholas Senn, Surgeon-General of the Illinois National Guard, demonstrated the method of amputation on the battle field. Major Charles Adams of the First Illinois Infantry, demonstrated suprapubic cystotomy, and Captain S. C. Stanton, of the same command, the examination of recruits. Dr. Henry W. Howard discussed the subject of fractures. After leaving the Presbyterian Hospital, the Association attended the clinic of Prof. David W. Graham at Rush Medical College. In the evening the officers present were the guests of Dr. Nicholas Senn at a dinner at the Rothen Stern Inn.

A case of interest to members of the medical profession, involving the question of responsibility in first-aid cases, was recently brought before Justice Whitney, of Peoria. On July 21, a son of A. R. Lettson

was thrown from his horse and seriously injured. Dr. J. J. L. Finnell, who was the nearest physician, was called at the time of the accident. When the ambulance arrived Dr. Ulrich came as ambulance physician. The patient was taken to the Cottage Hospital, where the two physicians, assisted by Dr. Hasson as anesthetizer, cleaned and bound up the wounds and applied the bandages. Later on Dr. Foertor, the family physician, called at the hospital, removed the bandages and applied others. It was claimed by the parents of the patient that, as Dr. Foertor was the family physician, he should have been called in the first instance and that they were not indebted to the physicians who were called in the emergency. The court rendered a judgment in favor of Dr. Finnell for the sum of $25 and the sum of $5.00 each for Drs. Hasson and Ulrich. Notice of an appeal was given.

MEMBERSHIP CHANGES.

During the month of January the following changes have occurred in the membership of the Illinois State Medical Society:

NEW MEMBERS.

ILLINOIS.

BUREAU COUNTY.

Gernsey, H. M., Dover.
Guillfoil, T. P., Arlington.
Horner, C. T., Tiskilwa.

COOK COUNTY.

Allen, S. A.
Allin, F. W.
Alrutz, Louis T.
Bingley, M. A.
Davis, John S.
Frazier, H. L.
Gill, John J
Learnes, Clare C.
Nuta, M.
Ritchey, R. M.
Strauch, August.
Thackeray, W. T.
Vopata, William J.
Waggoner, J. E.
Wolff, Maurice B.
Wyland, G. V.

DE WITT COUNTY.

Chapin, C. W., Weldon.
Spaulding, R. B., Clinton.
Morris, Dr., Farmer City.

HENRY COUNTY.

Smith, M. H., Colona Station.

KANKAKEE COUNTY.

Graham, S. A., Hospital.

KNOX COUNTY.

Birmingham, T. T., Galesburg.
Bryant, J. H., Galesburg.
Nash, E. N., Galesburg.
Bellwood, W., Abingdon.
Grant, O. E., Galesburg.
Bisson, M. M., Galesburg.
Bisson, W. C., Abingdon.

McDONOUGH COUNTY.

Westfall, F. K., Macomb.
Stockey, V. P., Colchester.
Griffith, J. C., Bushnell.

McLEAN COUNTY.

Law, E. F., Weston.

MORGAN COUNTY.

Duncan, W. P., Jacksonville.
Estis, R. L., Maradosia.
McEnery, J. C., Jacksonville.
Norris, F. A., Jacksonville.
Walton, H. C., Jacksonville.

UNION COUNTY.

Lylerly, A. J., Jonesboro.
Goodman, T. B., Ogden.

WHITESIDE COUNTY.

Terry, H. A., Tampico.

The following members have removed:

Mannus, W. G., Nortonville to Jacksonville.
Watts, B. P., East Galesburg to Randall.
Otis, T. J., Seatonville to Grand Rapids, Mich.
Cushing, F. O., Tiskilwa to Estevan, Canada.

NEW MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION.

During the month of January, 1906, the following members of the Illinois State Medical Society became members of the American Medical Association:

Allen, S. A., Chicago.
Anderson, F. M., Decatur.
Barnes, S. D., Chicago.
Barnsbac-, R. S., Edwardsville.
Bennett, Cleaves, Mattoon.
Dewitz, O. J., Chicago.
Eddy, W. L., Milan.
English, J. N., Gillespie.
Etherton, M., Carbondale.
Fox, Ralph, Bloomington.
Franke, W. E., Newton.
Gailey, D. S., Ashland.
Galbraith, G. H., Clifford.
Gilmore, W. S., Chicago.
Gray, A. W., Chicago.
Grizzell, C. C., De Soto.
Haines, W. E., Bushnell.
Hamil, Charles, Greenview.
Hanly, H. H., Havana.
Harding, P. D., Evanston.
Hill, W. C., Murphysboro.
Holmes, J. M., Monticello.
Irwin, W. L., Plymouth.
Johnson, C. N., Chicago.
Jones, Leroy, Hoopeston.
Jones, S. W., Danville.
Kalacinski, Felix, Chicago.
Kaull, W. M., Princeton.
Kershner, J. S., Dieterich.
Landis, B. F., Tiskilwa.
Littlejohn, H. C., Farmer City.
McDonald, J. H., Chicago.
Mefford, W. T., Chicago.
Moore, A. N., Mattoon.
Morgan, T. W., Virden.
Morris, E. V. D., Galesburg.
Orth, D. A., Chicago.
Paris, W. J. J., Cave-in-Rock.
Paul, W. H., Danville.
Pickard, J. C., Chicago.
Randall, J. N., Decatur.
Roberts, H. H., Maywood.
Sheets, V. L., Chicago.
Stewart, A. F., Oneida.
Sedgwick, H. M., Peoria.
St. Clair, W. H., Effingham.
Stewart, H. J., Kewanee.
Taylor, Buford, Westville.
Thilo, George, Chicago.
Thorpe, S. L., Decatur.
Wilhelmy, A. E., Decatur.
Wilkinson, C. H., Chicago.
Williamson, Marion F., Joliet.
Winbigler, B. R., Seaton.
Welker, J. W., Mattoon.
Walsh, W. E., Morris.

MARRIAGES.

LEWIS C. FRENCH, M.D., Stonington, to Miss Anna V. Waters of Chicago, January 5.

JAMES J. MCGUINN, M.D., to Miss Helen Mabel Carroll, both of Chicago, February 14.

GEORGE W. KOCH, M.D., Akron, Iowa, to Miss Frances Gilbert of Geneseo, Ill., January 1.

R. T. VAN METER, M.D., Dewar, Iowa, to Miss Marie Murdock of Kewanee, Ill., January 17.

FRANK R. MILLER, M.D., Everett, Wash., to Miss Daisy Wright of Canton, Ill., at Galesburg, January 10.

ELMER S. ALLEN, M.D., Arcola, Ill., to Miss Hannah Rowlands of Judson, Minn., at Chicago, January 23.

DEATHS.

ALEXANDER H. COOKE, M.D., died in Chicago, January 8, aged 83.

DANIEL L. ROBEY, M.D., died at his home in Stewardson, January 20, aged 77.

CHARLES H. PIERSON, M.D., died at his home in Avon, Ill., January 25, aged 80.

PHILIP F. LIGHTFOOT, M.D., died at his home in Murrayville, January 14, aged 82.

GEORGE G. LYON, M.D. Pulte Medical College, 1888, died in Chicago, January 17, from paralysis, aged 45.

RICHARD L. KENDALL, M.D., of Aurora, Ill., died from nephritis, at San Diego, Cal., January 1, aged 33.

W. H. MILLER, M.D. College of Physicians and Surgeons, Chicago, 1883, died at his home in Chadwick, Iowa, January 31, aged 45.

DAVID BARRY, M.D. Medical College of Virginia, 1862, a surgeon in the Confederate Army, died at his home in Ashley, January 21, aged 70.

BENJAMIN A. ALLISON, M.D. Jefferson Medical College, Philadelphia, 1844, died at his home in Decatur, from paralysis, February 6, aged 89.

CLARK R. WARREN, M.D., a graduate of Rush Medical College of the class of 1876, died at his home in Chicago, January 2, from brain tumor, aged 65.

JOHN W. LONG, M.D., died at St. Joseph's Hospital, Chicago, from heart disease, while undergoing an operation for a malignant growth in the throat, January 23, aged 71.

JOHN WARNER, M.D., of Clinton, Ill., a practitioner of medicine from 1841 to 1852, and afterward a leading banker of his city, died at his home, December 21, from pneumonia, aged 86. Dr. Warner built and presented to the city of Clinton the Warner Hospital.

JOHN W. BAKER, M.D. Medical College of Ohio, 1883, a member of the American Medical Association, Illinois State Medical Society, Clark County Medical Society and the Esculapian Society of the Wabash Valley, died at his home in West York, January 29, aged 54.

BERTHOLD B. PIROSH, a graduate of the University of St. Petersburg, Russia, 1877, professor of electrotherapeutics in the College of Physicians and Surgeons, Chicago, member of the United Hebrew Charities and of the medical staff for the Home for Aged Jews, member of the American Medical Association, Illinois State Medical Society, Chicago Medical Society and German Medical Association, died at his home in Chicago, January 25, aged 52.

ADDITIONAL CHANGES IN ILLINOIS.

REPORTED BY THE STATE BOARD OF HEALTH.

DEATHS.

Latham, S. C., at Enfield, Jan. 29, 1906.
Melze, Louis A., at Chicago, Dec. 28, 1905.
Rawlins, John W., at Jewett, Feb. 4, 1906.
Stevens, B. F., at St. Jacobs, Dec. 9, 1905.
Driver, Amos, at Carrollton, Jan. 30, 1905.
Gross, Frank W., at Chrisman, Jan. 28, 1905.
Baumer, Franz, at New Athens, in January, 1906.
Harris, Colmore, near Boos Station, May 7, 1905.
Lapsley, Fred W. R., at Chicago, in January, 1906.
Tyler, Abbie C., at Warren, Mass., in January, 1906.
Webster, Charles L., at Cleveland, Ohio, Dec. 22, 1905.

O'Mahoney, Lafayette, at Dennison, Texas, Dec. 13, 1905.
Sturgeon, Clarence E., at Clarion, Iowa, in December, 1905.
Steger, R. W., committed suicide in New York, Jan. 10, 1906.
Blaisdell, Edward C., at Soldiers' Home, Quincy, Dec. 22, 1905.
Shamhart, George, in North Muddy Township, Jasper county, Jan. 24, 1906.

CHANGES OF ADDRESS.

CHANGES TO CHICAGO.

Lerch, W. H., from Misc. to 38 East Harrison Street, Chicago.

Hume, Charles, from Misc. to Hotel Windsor-Clifton, Chicago.

Cogswell, John Golder, from Oktaba, I. T., to Cook County Hospital, Chicago.

Collier, Clinton C., from Cook County to 92 State Street, Chicago.

Else, John Earle, from Cayuga, N. D., to Cook County Hospital, Chicago.

Hewitt, Henry M., from Polo, Ogle County, to 390 North Clark Street, Chicago.

Anderson, Axel Walfrid, from Cook County, to 9139 Commercial Avenue, Chicago.

McKay, John Alexander, from Langdon, N. D., to 2400 Dearborn Street, Chicago.

Peterson, Jeanette Dow, from Chesterton, Ind., to 4630 Indiana Avenue, Chicago.

Poor, Nellie C., from Urbana, Champaign County, to 6617 Kimbark Avenue, Chicago.

Smith, Turner Burton, from Grand Ridge, LaSalle County, to Presbyterian Hospital, Chicago.

Holland, Armatus S., from Elmwood, Peoria County, to 2200 West Adams Street, Chicago.

Brown, John Bernard, from Rossville, Vermilion County, to 408 West Sixty-first Street, Chicago.

Hume, William Allen, from Misc. to Hotel Hays, Sixty-fourth Street and Lexington Avenue, Chicago.

Lockyer, C. Douglas, from Prairie View, Lake County, to corner One Hundred and Eighteenth Street and Haward Avenue, Chicago.

CHANGES FROM CHICAGO.

Crutcher, Howard, from 103 State Street to Colorado.

Doherty, David J., from 582 LaSalle Avenue to Misc.

Thomas, V. D., from Chicago to Zeigler, Franklin County.

Wheeler, Russel H., from 2140 Wabash Avenue to Gardner, Grundy County.

Young, Eugene Yetman, from 1071 Herndon Street to Mansfield, Piatt County.

Bain, Walter Gelvin, from 6330 Kimbark Avenue to Champaign, Champaign County.

Beebe, Arthur Herbert, from 2282 West Twelfth Street to Kankakee, Kankakee County.

Hannon, Horace B., from 764 West Madison Street to Arlington, Bureau County.

Miller, George L., from 125 Twenty-fifth Street to Springfield, Sangamon County.

Morrison, Winfield S., from 2646 Calumet Avenue to Minonk, Woodford County.

Sladek, Bohumil, from 1335 West Twenty-second Street to Hawthorne, Cook County.

Walk, Frederick D., from 271 Jackson Boulevard to Green River, Henry County.

CHANGES IN CHICAGO.

Colver, Harley Ross, 3179 Ashland Avenue to 54 Seminary Avenue, Chicago.

Ruare, Grace Louis, from Hahnemann Hospital to 69 Douglas Place, Chicago.

Brownstein, Simon, from 374 South Halsted Street to 534 West Taylor Street, Chicago.

Denkinger, Fred Carle, from 3413 Vernon Avenue to 553 Larrabee Street, Chicago.

Langford, W. Deltorist, from 39 Burton Building to 2628 Wabash Avenue, Chicago.

Kolar, Edward E., from 379 West Eighteenth Street to Eighteenth and Fisk Streets, Chicago.

Atherton, Clesson C., from 172 South Jefferson Street to 61 West Van Buren Street, Chicago.

Fawcett, Clayton E., from 1076 Sacremento Avenue to Chicago Homeopathic Hospital, Chicago.

Goebel, Alfred William, from Forty-ninth Avenue and Thomas to St. Elizabeth Hospital, Chicago.

Ohls, Henry G., from 103 Dearborn Avenue to East Ravenswood Park and Foster Avenue, Chicago.

Yeakel, William K., from 1239 West Berteau Avenue to 2682 North Forty-second Avenue, Chicago.

CHANGES TO ILLINOIS.

Caulk, W. H., from Misc. to Sorento, Bond County.

Freemon, Joel C., from Misc. to Argenta, Macon County.

Royal, Andy, from Misc. to Wrightsville, Greene County.

Plack, S. Morton, from Misc. to Moweaqua, Shelby County.

McElroy, J. J., from Misc. to Rossville, Vermillion County.

Bartlett, A. T., from Misc. to Jacksonville, Morgan County.

Braden, W. C., from Misc. to Kampsville, Calhoun County.

Beecher, Charles Edwin, from Misc. to Gibson, Knox County.

Allen, J. R., from Arkansas to Fancy Prairie, Menard County.

Erwin, Oliver Perry, from Misc. to Medora, Macoupin County.

Hogan, Earl A., from Misc. to Shawneetown, Gallatin County.

Kuhn, LeRoy Philip, from Misc. to Fairbury, Livingston County.

Brown, Louis Sylvester, from Misc. to Hillsboro, Montgomery County.

Haughton, Nicholas J., from Misc. to Janesville, Cumberland County.

Unkrich, Charles R., from Delavan, Wis., to Monmouth, Warren County.

Pannenborg, Arthur H., from Hammond, Ind., to Collision, Vermillion County.

Morgan, Frank Russell, from Benton Harbor, Mich., to Towanda, McLean County.

CHANGES FROM ILLINOIS.

Hollister, Wilber L., from New Salem, Pike County, to Misc.

Osborne, W. S., from Deer Creek, Tazewell County, to Misc.

Gaige, Frederick A., from Vandalia, Fayette County, to Misc.

Worrell, William B., from Cable, Mercer County to Arkansas.

Rose, P. W., from Simpson, Johnson County, to St. Louis, Mo.

Barlow, Nathan, from Stronghurst, Henderson County, to Misc.

Morgan, Luther H., from Anna, Union County, to Dover, Tenn.

LaBaum, Lydia H., from Batavia, Kane County, to Roanoke, Va.

Maness, William G., from Jacksonville, Morgan County, to Misc.

Mellen, W. A., from Rockton, Winnebago County, to Beloit, Wis.

Bushee, Grant B., from Buda, Bureau County, to Clinton, Iowa.

Castro, Jabez Clifford, from Belleville, St. Clair County, to Misc.

Powell, Calvin B., from Mound City, Pulaski County, to Bailey, I. T.

Rook, Charles W., from Bowen, Hancock County, to Julesburg, Col.

Alverson, George W., from Cary Station, McHenry County, to Misc.
Wakefield, Arthur Paul, from Springfield, Sangamon County, to China.
Williams, Robert Jay, from Rossville, Vermilion County, to Pence, Ind.
Runde, Frederick W., from Kampville, Calhoun County, to St. Louis, Mo.
Rockey, Amos P., from Assumption, Christian County, to Los Angeles, Cal.
McGrath, Benjamin R., from Savannah, Carroll County, to Grand Island, Neb.
Bright, James Barlow, from Bently, Hancock County, to Russellville, Indian Territory.

CHANGES IN ILLINOIS.

Watson, S. M., from Delhi, Jersey County, to Newbern, Jersey County.
Krohm, Henry W., from DeWitt County, to Weldon, DeWitt County.
Gray, Alexander, from Cabery, Ford County, to Kempton, Ford County.
Henry, Gilbert H., from Payson, Adams County, to Eldara, Pike County.
Wood, Harry, from El Dara, Pike County, to Hamburg, Calhoun County.
Dugan, W. J., from Paris, Edgar County, to Lovington, Moultrie County.
Phipps, W. C., from Secor, Woodford County, to Dewitt, DeWitt County.
Blakley, P. W., from Galatia, Saline County, to Marion, Williamson County.
Woodward, Joseph T., from Elkhart, Logan County, to Lincoln, Logan County.
Wilmot, C. M., from Lawn Ridge, Marshal County, to Edelstein, Peoria County.
Talbot, Charles W., from Secor, Woodford County, to Braidwood, Will County.
Peavler, Hugh, from Spring Garden, Jefferson County, to Ina, Jefferson County.
Logan, Harry Lambert, from Elba, Gallatin County, to Salem, Marion County.
Harris, H. L., from Gibson City, Ford County, to Bellflower, McLean County.
Heilig, George N., from Wetang, Pulaski County, to Pulaski, Pulaski County.
Harrison, Charles N., from Dixon, Lee County, to Chadwick, Carroll County.
Fouser, Hiram, from Grand Park, Kankakee County, to Harvey, Cook County.
Early, Henry C., from Sorento, Bond County, to Granite City, Madison County.
Donovan, C. J., from Forsyth, Macon County, to Clarksdale, Christian County.
Adkins, Albert E., from Metropolis, Massac County, to Brookport, Massac County.
Baker, Oswald E., from Cougerville, Woodford County, to Dunlap, Peoria County.
Bowers, Daniel W., from West Salem, Edwards County, to Calhoun, Richland County.
Clark, N. S., from Boon, Jasper County, to Wheeler, R. F. D. No. 2, Jasper County.
Dinges, Eugene George, from Red Bud, Randolph County, to French Village, County.
Dunlap, James A., from Hammond, Piatt County, to Sullivan, Moultrie County.
Grant, Oscar Emanuel, from New Windsor, Knox County, to Princeton, Bureau County.
Guilfoyle, Thomas P., from Mendota, LaSalle County, to Arlington, Bureau County.
Hamm, Malfred, from Mount Olive, Macoupin County, to Madison, Madison County.
Hankins, Otto K., from Swan Creek, Warren County, to Monmouth, Warren County.
Hoffman, Gideon H., from Yorktown, Bureau County, to Kewanee, Henry County.
Johnson, Uriah H., from Rosiclare, Hardin County, to Temple Hill, Pope County.

Littlefield, H. A., from Carthage, Hancock County, to Plymouth, Hancock County.

McMackin, Curtis C., from Rankin, Vermilion County, to Roanoke, Woodford County.

McMurray, R. J. from Linn, Wabash County, to St. Francisville, Lawrence County.

Murchison, J. C., from Tablegrove, Fulton County, to Littleton, Schuyler County.

Pershing, Frank O., from LaHarpe, Hancock County, to Dallas City, Hancock County.

Reeves, J. Trumbell, from Vandalia, Fayette County, to Shobonier, Fayette County.

Shasted, Thomas H., from Charleston, Coles County, to Marion, Williamson County.

Stone, John W., from Springerton, White County, to Mill Shoals, White County.

Squire, John Peters, from Granite City, Madison County, to Alton, Madison County.

Tannus, Tannus Ferris, from Bloomington, McLean County, to Clinton, DeWitt County.

Tidewell, William F., from Corinth, Williamson County, to Marion, Williamson County.

Watson, James E., from Otterville, Jersey County, to North Alton, Madison County.

Zeigler, Charles S., from Marietta, Fulton County, to Bushnell, McDonough County.

Coleman, James H., from Carterville, Williamson County, to Marion, Williamson County.

Golightly, Alonzo, from Carbondale, Jackson County, to Dewmaine, Williamson County.

Stein, John Henry, from Deer Creek, Tazewell County, to Mackinaw, Tazewell County.

Johnson, Perry C., from Champaign, Champaign County, to Neoga, Cumberland County.

Fletcher, Marcus S., from Danville, Vermilion County, to Georgetown, Vermilion County.

Mackenzie, William Alexander, from Chester, Randolph County, to Sparta, Randolph County.

Culhave, Thomas H., from Peoria, Peoria County, to Rockford, Winnebago St. Clair County.

Dunlay, Isaiah H., from Marlow, Jefferson County, to Opdyke, R. F. D. No. 3, Jefferson County.

Jouett, Emerit Edward, from Woody, Green County, to Carrollton, R. F. D. No. 1, Green County.

Ihne, Alfred J., from Bunker Hill, R. F. D. No. 18, Macoupin County, to Fosterburg, Madison County.